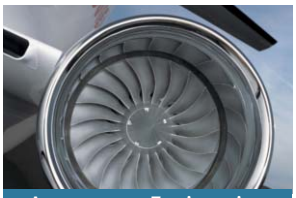
Ultra-Chem®



Aerospace - Engineering

Construction - Excavation

Clean Room - Technological

Paint Spraying -
Asbestos Removal

Health Care -
Chemical Handling

We've got **you** covered...

About Us

Ultra-chem® was designed – developed and manufactured in partnership with the largest manufacturers of personal protective equipment in the USA and Europe, to meet the growing demand for high quality, competitively priced PPE products.

It has taken over 10 years to develop the ongoing product range, from the self certification polypropylene garments and accessories, up to the high specification category III type's 3-4 chemical protective coveralls.

The Ultra-Chem coverall range is one of the toughest and most durable disposable and protective coverall ranges available on the market today. The range combines excellent strength and protection properties as well as comfort at a cost effective price.

The Ultra-Chem coverall and bespoke accessories ranges are produced at factory's which are certified to Quality assured ISO 9000 accreditation. It has taken many years to develop the existing range of ultra-chem products and this innovative evolutionary process can be seen with our unique 6 point design throughout the ultra-chem range.

Ultra-Chem guarantee to hold large stocks of all the products listed in the catalogue and these are readily available for distribution throughout the UK and Eire in most cases for next day delivery.

With ongoing product development and new additions to the product range, ultra-chem is now established as one of the uk-Eire's leading brands of p.p.e.

We have a dedicated technical team available daily to assist with all technical requirements and with a guaranteed reply with your query within 24 working hours you can be assured that you, your staff and your customers are wearing the correct protective clothing. For further details of all the products listed in the catalogue or to download technical specification sheets, technical and information forms please contact your local Ultra Chem Distributor.

Ultra-Chem® GP

Ultra-Chem® NS, IS & NSC

Ultra-Chem® TS

Ultra-Chem® Cool Suit

Ultra-Chem® Sterile Cleanroom Clothing

Ultra-Chem® Accessories

Ultra-Chem® Chem Max

Ultra-Chem® Flame Retardent

Ultra-Chem® Polypropylene

Ultra-Chem® Food Trade

Design

No other garment in Europe features all six of these excellent design elements. This makes **Ultra-Chem's "Superb"** coveralls the best designed coveralls available.

Not only are Ultra-Chem coveralls generously sized they also feature six design features comprising a unique coverall - called the "Ultra-Chem Superb" pattern developed by Ultra-Chem for the European market and taking the best elements of US and European designs.

Ultra-Chem Coveralls feature a double zip / protective flap front fastening for improved protection and quick and easy donning and removal.

Ultra-Chem Coveralls Are available with an elasticated cuff as standard or with our "special cuff" a soft elasticated knitted polycotton material is sewn onto the end of the sleeve to create a special cuff for enhanced user comfort, the cuff is excellent for use with capturing liquids.

Standard European coveralls generally consist of a simple crotch with four seams (two leg and two body) meeting at one point. Ultra-Chem coveralls feature two diamond-shaped gussets that increase strength and fit, making the shape more three-dimensional and reducing the stress on the crotch.

Ultra-Chem coveralls feature a three-piece hood whereas many European garments use a two piece hood. A two piece hood is of course two-dimensional so does not fit the head properly – leading to the odd "pointy" top of the hood. Ultra-Chem three-piece hood is three-dimensional and fits the head with a snug and comfortable fit.

Unlike most European garments which generally use a "batwing" sleeve which restricts overhead arm movement and causes stress on other parts of the garment, all Ultra-Chem coveralls feature inset sleeves which are hinged at the arm and allow greater freedom of movement and are a better fit. The Inset Sleeve reduces the tendency to place stress on the crotch and leads to a more comfortable and safer garment.

Ultra-Chem Coveralls Are available with an elasticated ankle as standard. The coveralls are also available with an attatched boot with either a standard sole our with an antislip material: see our full accessory range on page 11 for further details.

The EEC has developed a range of standards for protective clothing. These ensure that garments meet certain performance criteria to ensure suitability for their designated application. Garments must be marked with the CE logo to indicate they meet these standards. All products sold within Europe as "safety products" must carry such a mark.

For safety clothing and equipment there are three overall categories:-
Category I: Simple products - products not designed to protect against hazards
Category II: Intermediate products - those products not classed as Category I or III.
Category III: Complex products - those products designed to protect the wearer / user from a hazard.
Category III: Complex products must undergo a series of exhaustive tests on fabrics and the finished product in order to prove they meet the requirements of the relevant standard. A "CE certificate" is issued by a government approved "Notified Body" allowing the manufacturer to use the CE mark.

All Ultra- Chem coveralls (with the exception Polypropylene) are classed as Category III "Complex" products as they are designed to protect the wearer from chemical hazards.

In the case of clothing designed to protect against chemicals, six "Types" of protection have been identified with standards written for each as follows:-

 	**EN 943-1:2002** - Protective Clothing against liquid and gaseous chemicals, including liquid aerosols and solid particles. Performance requirments for ventilated and non-ventilated: **Type 1** - gas-tight, chemical protective suits **Type 2** - non-gas-tight chemical protective suits	**Type 1 & 2** garments are fully encapsulating suits featuring sealed seams, visors and often integrated gloves and boots. Type 1 suits are fully sealed against the environment, whilst Type 2 suits may not be fully sealed but will maintain a positive pressure from a portable respirator unit or air-line.
 	**EN 14605:2005** - Protective clothing against liquid chemicals. Performance requirements for clothing with: **Type 3** - liquid tight, or **Type 4** - spray tight connections including items providing protection to parts of the body only. (Types PB[3] and PB[4])	**Type 3 & 4** garments generally use chemical barrier polyethylene, saranex or EVOH films and are not breathable. The latest standard requires sealed seams, though see the note about "The Latest Standard..?" above. The difference between Type 3 and 4 is defined by the "Type test" or finished garment test. Whereas the Type 4 sprays the suit with a general liquid spray, the Type 3 suit uses a strong jet spray to test seams.
	**EN13982-1:2004** - Protective clothing for use against dry particulates. Performance requirements for protective clothing providing protection for the full body against airbourne solid particles.	**Type 5** coveralls are designed to protect against solid particles or dusts. Sometimes breathable coveralls such as Ultra-Chem SG provide the best protection against dusts as the breathability means no bellows effect is created.
	**EN13034:2005** - Protective clothing against liquid chemicals. Performance requirements for chemical protective clothing offering limited protective performance against liquid chemicals (Type 6 and Type PB [6]).	**Type 6** coveralls protect against light splashes and sprays of lower hazard chemicals. Three types of fabric are commonly used for this type of coveral: Microporous polyethylene films such as Ultra-Chem NS, SMS varients such as Ultra-Chem SG and Flash-spun polyethylene.

Ultra-Chem® GP

TYPE 5 TYPE 6

Ultra-Chem® GP

- Is a 55 gsm SMS offering limited use for dust and light liquid splash protection.
- Lightweight and breathable material for maximum user comfort and wearability. Ultra-Chem GP is ideal cost effective protection against hazardous dusts and light splashes and sprays of low hazard liquid chemicals
- Over Locked, serged seams are generally used on garments for light splash and dry particle protection.

Model Description

- Elastic face, waist, wrist & ankles.
- Double-folded zip flap for improved zip coverage.
- Inset sleeve provides full freedom of movement.
- Two Way Zip.
- Two piece gusset to crotch for ease of movement.
- Three piece hood for better fitting around face & head.
- Over locked seams for protection.

Typically used for

- Protection against hazardous dusts and light splashes
- Paint Spray (non-linting surface)
- Asbestos Removal and handling
- Pharmaceutical Manufacture
- Chemical Spray
- Food Industry
- Clean room applications (may require additional cleaning)
- General cleaning and maintenance
- Electrostatic discharge if properly grounded according to EN 1149-1*
- Protection against particulate radioactive contamination according to EN 1073-2
- Category 3 complex design
- Type 6: Limited protection against liquid mist* EN 13034
- Type 5: Protection against airborne solid particulate chemicals* EN ISO 13982-1

Category III EN 1073-2 EN 1149-1

Chemical repellency – EN 368

Chemical	Ultra-Chem GP Penetration	Repellency
Sulphuric Acid 30%	0%	98.1%
Sodium Hydroxide 10%	0%	97.8%

Fabric profile test

Test Number	Test Description	Ultra-Chem GP Results
EN 530	Abrasion	100-500 Cycles
EN 863	Puncture Resistance	7.7N
ISO 2960	Burst Strength	112 Kn/M2
ISO 7854	Flex Cracking	100 K cyc
ISO 9073	Trapezoidal Tear	Md: 26.5/25.0N

Finished garment test

Test number	Description	Result Max1
prEN 13034 (Type 6)	Reduced chemical spray	Pass
prEN 13982 (Type 5)	Dry particle Protection	Pass
EN 5082	Seam Strength	88.8

Particle Barrier – Aloxite Method*

Particle Size	Penetration % Ultra-Chem GP
1.2 - 1.5 mu	0
1.5 - 2.0 mu	0.28
2.0 - 2.5 mu	0.48
2.5 - 3.0 mu	0
3.0 – 3.5 mu	0
3.5 mu	0

*Applies to fabric only *Anomolies can accur if particles coagulate downstream of the fabric and are counted as large particles.

Ultra-Chem® NS, IS & NSC

TYPE 5 TYPE 6

Ultra-Chem® NS Type 5&6 Hooded

- Elastic face, waist, wrist & ankles.
- Double-folded zip flap for improved zip coverage.
- Inset sleeve provides full freedom of movement.
- Two Way Zip.
- Two piece gusset to crotch for ease of movement.
- Three piece hood for better fitting around face & head.
- Over locked seams

Ultra-Chem® IS Type 5&6 Collard

- Collar, Elastic waist, wrist & ankles.
- Double-folded zip flap for improved zip coverage.
- Inset sleeve provides full freedom of movement.
- Two Way Zip.
- Two piece gusset to crotch for ease of movement.
- Three piece hood for better fitting around face & head.
- Over locked seams

Ultra-Chem® NSC Special Cuff

- Ultra-Chem Coveralls Are available with an elasticated cuff as standard or with our "special cuff" a soft elasticated knitted polycotton material is sewn onto the end of the sleeve to create a special cuff for enhanced user comfort, the cuff is excellent for use with capturing liquids.

Model Description

- **ULTRA-CHEM NS** uses a high quality microporous polyethylene film laminated to spunbonded polypropylene (65gsm / msq) to produce an excellent effective range of type 4,5 and 6 disposable coveralls.
- **Microporous films** combine excellent liquid and dust barrier properties, high strength; softness and moisture vapour transmission (MVTR) for enhanced user comfort superior to that of other materials that have low air permeability. In addition Ultra-Chem features superior softness and exellent drape characteristics.
- **Overlocked Seam**
  A Three-thread overlocked seam joins two pieces of material with a thread stitch that interlocks for good strength and protection. This is an economical stitching method for general applications, commonly found on limited use clothing where dry particulates are of a concern.

Typically used for

- Protection against hazardous dusts and light splashes
- Paint Spray (non-linting surface)
- Asbestos Removal and handling
- Pharmaceutical Manufacture
- Chemical Spray
- Food Industry
- Clean room applications (may require additional cleaning)
- General cleaning and maintenance applications
- Protection against resins & oils

- Electrostatic discharge if properly grounded according to EN 1149-1*
- Protection against particulate radioactive contamination according to EN 1073-2
- Category 3 complex design
- Type 6: Limited protection against liquid mist* EN 13034
- Type 5: Protection against airborne solid particulate chemicals* EN ISO 13982-1

Category III EN 1073-2 EN 1149-1

Chemical repellency – EN 368

Chemical	Penetration Repellency	Penetration Repellency
Sulphuric Acid 30%	0%	97.7%
Sodium Hydroxide 10%	0%	99.1%

Fabric profile test

Test Number	Test Description	Results
EN 530	Abrasion	750 cls
EN 863	Puncture resistance	8.96N
ISO 2960	Burst Strength	89.4N
ISO 7854	Flex Cracking	100 K cy
ISO 9073	Trapezoidal Tear	Md: 58.5N / cd: 31.5N
ISO 811	Hydrostatic Head	351cm
ASTM E96 B	MVTR	850.60 g/24hrs/M sq
EN 1149 - 1	Surface Resistivity	Pass
ASTM F1671-97a	Biological Penetration	Pass

Finished garment test

Test number	Description	Result (NS)
prEN 13034 (Type 6)	Reduced chemical spray	PASS
prEN 13982 (Type 5)	Dry particle Protection	PASS
EN 5082	Seam Strength	88.8N

Particle Barrier – Aloxite Method*

Particle Size	Penetration % Ultra-Chem NS
1.2 - 1.5 mu	0
1.5 - 2.0 mu	0.28
2.0 - 2.5 mu	0.48
2.5 - 3.0 mu	0
3.0 – 3.5 mu	0
3.5 mu	0

*Applies to fabric only *Anomolies can accur if particles coagulate downstream of the fabric and are counted as large particles.

Ultra-Chem® TS

TYPE 4 TYPE 5 TYPE 6

Ultra-Chem® TS Type 4

- Made from microporous polyethylene film laminated to spunbonded polypropylene (65gsm / msq) and combines excellent liquid and dust barrier properties, high strength; softness and moisture vapour transmission for enhanced user comfort.
- Chemical barrier tape to cover seams to fully seal the seam...protection at the seam is at least as good as the fabric. (some type 4 garments feature a bound seam which fails to meet the minimum permeation requirements of the latest type 4 standard)
- Ultra-Chem TS is approved to EN14126: the recognised European standard for protection against biological contaminants. The standard specifies five different tests to assess the fabrics ability to resist penetration in various situations.
- The table below shows the result for Ultra-Chem TS Fabric.

Model Description

- Taped seams TS provide full seal – no seam holes to allow penetration of dusts and liquids.
- Elastic face, waist, wrist & ankles.
- Double-folded zip flap for improved zip coverage.
- nset sleeve provides full freedom of movement.
- Two Way Zip.
- Two piece gusset to crotch for ease of movement.
- Three piece hood for better fitting around face & head.

Applications

- Protection against hazardous dusts and light splashes
- Paint Spray (non-linting surface)
- Asbestos Removal and handling
- Pharmaceutical Manufacture
- Chemical Spray
- Food Industry
- Clean room applications (may require additional cleaning)
- General cleaning and maintenance applications
- Protection against resins & oils

Category III EN 1073-2 EN 1149-1 EN 14126

Chemical repellency – EN 368

Chemical	Penetration	Repellency
Sulphuric Acid 30%	0%	98.1
Sodium Hydroxide 10%	0%	98.5

Fabric profile test

Test Number	Ultra-Chem TS Test Description	Results
EN 530	Abrasion	500 cls
EN 863	Puncture resistance	15.5N
ISO 2960	Burst Strength	222.6N
ISO 7854	Flex Cracking	40 K cyc
ISO 9073	Trapezoidal Tear	Md: 47.8 / 55.0
ISO 811	Hydrostatic Head	351cm
ASTM E96 B	MVTR	850.60 g/24hrs/M sq
EN 1149 - 1	Surface Resistivity	Pass
ASTM F1671-97a	Biological Penetration	

Finished garment test

Test number	Description	Result
prEN 13034 (Type 6)	Reduced chemical spray	PASS
prEN 13982 (Type 5)	Dry particle Protection	PASS
prEN 14065 (Type 4)	Dry particle Protection	PASS
EN 5082	Seam Strength	88.8N

Particle Barrier – Aloxite Method*

Particle Size	Penetration % Ultra-Chem TS
1.2 - 1.5 mu	3.65
1.5 - 2.0 mu	1.92
2.0 - 2.5 mu	0.70
2.5 - 3.0 mu	0.48
3.0 – 3.5 mu	0.31
3.5 mu	0.25

*Applies to fabric only *Anomolies can accur if particles coagulate downstream of the fabric and are counted as large

Ultra-Chem® Cool Suit

TYPE 5 TYPE 6

Model Description

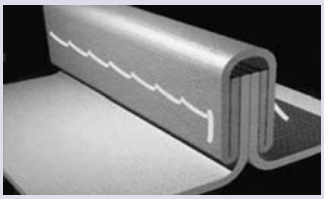
- The Ultra-Chem Cool Suit is a Type 5 & 6 single use protective coverall that offers the best of protection with a high level of comfort derived from breathability.
- Where protection is most needed ... the legs, arms and front of the coverall are constructed using Ultra-Chem material: excellent liquid repellency properties for protection against paints, cleaning fluids and splashes of low hazard liquid chemicals.
- The back of the coverall features a large panel of highly breathable Ultra-Chem GP material - in blue for easy identification. This enables the suit to breath easily, making Ultra-Chem Cool Suit comfortable in the warmest of working environments.

Applications

- Protection against hazardous dusts and light splashes
- Paint Spray (non-linting surface)
- Asbestos Removal and handling
- Pharmaceutical Manufacture
- Chemical Spray
- Food Industry
- Clean room applications (may require additional cleaning)
- General cleaning and maintenance applications
- Protection against resins & oils

Model Description

- Highly breathable back panel in blue for identification
- Elastic face, waist, wrist & ankles.
- Double-folded zip flap for improved zip coverage.
- Inset sleeve provides full freedom of movement.
- Two Way Zip.
- Two piece gusset to crotch for ease of movement.
- Three piece hood for better fitting around face & head.
- Tough Blue bound seams for added protection.
- Knitted cuff



Sewn and Bound Seam
This seam joins two pieces of material with an overlay of similar material and is chain stitched through all of the layers for a clean finished edge.
This provides increased holdout of liquids and dry particulates.

Category III EN 1073-2 EN 1149-1

Chemical repellency – EN 368

	Main Garment Ultra-Chem NS		Back Panel Ultra-Chem GP	
Chemical	**Penetration**	**Repellency**	**Penetration**	**Repellency**
Sulphuric Acid 30%	0%	97.7%	0%	96.7%
Sodium Hydroxide 10%	0%	99.1%	0%	98.4%

Fabric profile test

Test Number	Test Description	Main Garment Ultra-Chem NS Results	Back Panel Ultra-Chem GP Results
EN 530	Abrasion	750 Cycles	500 Cycles
EN 863	Puncture Resistance	8.96N	9.2N
ISO 2960	Burst Strength	89.4N	51N/Msq
ISO 7854	Flex Cracking	100 K cyc	100Kcyc
ISO 9073	Trapezoidal Tear	Md: 58.5N / cd: 31.5N	48.5N/ 22.5N
ISO 811	Hydrostatic Head	351cm	460mm

Finished garment test

Test number	Description	Result (NS)	Result (GP)
prEN 13034 (Type 6)	Reduced chemical spray	Pass	Pass
prEN 13982 (Type 5)	Dry particle Protection	Pass	Pass

Particle Barrier – Aloxite Method*

Particle Size	Penetration % Ultra-Chem NS	Penetration % Ultra-Chem GP
1.2 - 1.5 mu	0	3.65
1.5 - 2.0 mu	0.28	1.92
2.0 - 2.5 mu	0.48	0.70
2.5 - 3.0 mu	0	0.48
3.0 – 3.5 mu	0	0.31
3.5 mu	0	0.25

*Applies to fabric only *Anomolies can accur if particles coagulate downstream of the fabric and are counted as large

Ultra-Chem®
Sterile Cleanroom Clothing

TYPE 5 TYPE 6

Sterile & Cleanroom Clothing

- The choice of protective clothing in a clean room environment is crucial in terms of contamination control management in a clean room environment, specifically because it can prevent contamination but also generate it in case it is not adequate: We have chosen and developed the ultra-chem NS protective coverall specifically for sterilization for cleanroom applications as the coverall already has many of the key components for a cleanroom environment before it is sterilized, however once sterilized the cover is the perfect choice for all cleanroom environments. For full technical information for the Ultra-chem NS coverall please see page 5.

Function of cleanroom clothing

- Protection of product and cleanroom environment against contamination by people
- Protection of people against solid or liquid hazardous substances and biological hazards
- Shall offer good electrostatic charge dissipation
- Shall not generate contamination
- Shall allow heat exchange for wearer. Cleanroom clothing as potential source of contamination:
- the material surface particle shedding
- residues remaining from the cleaning or decontamination treatment
- particles that penetrate the cleanroom clothing through the fabric, openings or, seams fibre release if low abrasion resistance of the clothing fabric.

understanding the importance of a cleanroom invironment
For a whole range of industries, such as pharma-ceuticals, food processing, electronics, surface lating and coating, it's not just the people so much as the products or processes that must be kept clean and uncontaminated. Whilst air purification, ventilation and access systems help to maintain internationally recognised standards for article control, simply selecting the right type of protective clothing can minimise the risk of contamination through personnel that represent
a critical source of contamination.In this brochure, we will provide garment and wipe solutions for an effective contamination

Ultra-Chem ST is sterilized using Ethylene Oxide

What is Ethylene oxide C_2H_4O
Ethylene oxide C_2H_4O is a colourless gas or colourless liquid below 10 deg C. The gas is slightly heavier than air it is a simple chemical compound that is commonly used for gaseous sterilization of disposable healthcare products. Ethylene oxide is an alkylating agent that disrupts the DNA of microorganisms, which prevents them from reproducing. Ethylene oxide sterilization assures that a safe and sterile product will be delivered to the consumer each and every time.

Sterilization process

The ethylene oxide C_2H_4O sterilization is a chemical process consisting of four primary variables: gas concentration, humidity, temperature and time. The product is loaded into the sterilization chamber, where it is exposed to all three phases of the sterilization process (pre-conditioning, sterilization and aeration)

- Pre-conditioning: Used to preheat and humidify product loads to predefined conditions. This will assure a repeatable sterilization process regardless of pre-processing load storage conditions
- Sterilization: Performed using process phases specifically designed to provide the required level of ethylene oxide exposure to assure sterility for a device or family of devices
- Aeration: Used to accelerate out gassing of exposed product loads and to contain and eliminate residual ethylene oxide emissions.

Packaging

It is vital that the correct packaging is applied to the product to ensure the coverall remains in a sterile state until use, the package is critical to ensuring product sterility. Once the sterilization process has taken place the coverall is heat sealed into a vacuumed packed, clear sleeve with clearly marked storage conditions recommended shelf life, date of manufacture, and manufacture guidance for usage.

- **ULTRA-CHEM NS** uses a high quality microporous polyethylene film laminated to spunbonded polypropylene (65gsm / msq) to produce an excellent effective range of type 4,5 and 6 disposable coveralls.
- Microporous films combine excellent liquid and dust barrier properties, high strength; softness and moisture vapour transmission (MVTR) for enhanced user comfort superior to that of other materials that have low air permeability. In addition Ultra-Chem features superior softness and exellent drape characteristics.
- For the full product specification on the ultra-chem coverall please see page

Category III EN 1073-2 EN 1149-1

Ultra-Chem® Accessories

Ultra-Chem Hood Model UC7

Model Description
- Elastic face
- 3 Piece hood for improved fit.
- Box Quantity 200
- One Size fits all.

Ultra-Chem Sleeve Model UC6

Model Description
- Elasticated both ends
- Box Quantity 100 Pairs
- Available in sizes 14, 16 & 18 inch

Ultra-Chem Shoe Cover Model UC9

Model Description
- Elasticated Upper
- Available with anti slip sole
- Box Quantity 100 Pairs
- Available in sizes 14 & 16 inch

Ultra-Chem Shoe Cover (Anti Slip)ModelUC9AS

Model Description
- Elasticated Upper
- Available with anti slip sole
- Box Quantity 100 Pairs
- Available in sizes 14 & 16 inch

Ultra-Chem Boot Model UC10

Model Description
- Elasticated Opening
- Available with anti slip sole
- Box Quantity 200 Pairs
- Available in sizes 14 & 16 inch

Ultra-Chem Boot (Anti Slip)Model UC10AS

Model Description
- Elasticated Opening
- with anti slip sole
- Box Quantity 200 Pairs
- Available in sizes 14 & 16 inch

Ultra-Chem Hooded top Model UC3

Model Description
- Elasticated face
- Elasticated Waist
- Box Quantity 25
- Sizes Small to XXL

Ultra-Chem Trousers Model UC2

Model Description
- Elasticated Waist
- Without pockets
- Box Quantity 25
- Sizes Small to XXL

Ultra-Chem Apron Model UC8

Model Description
- With Flap
- With 2 bonds to be tied at the back
- Length 108cm
- Box Quantity 25
- One Size fits all.

Ultra-Chem Surgeons Gown: Model UC50

Model Description
- Back fasten
- Elasticated cuffs
- Box Quantity 100 Pairs
- Available in sizes small to xxxl

Ultra-Chem LabCoat Model UC4OE

Model Description
- Overlocked Seam
- Elasticated cuffs
- zip fasten
- Collard
- Available with Pocket
- Box Quantity 100
- Sizes Small to XXL

Ultra-Chem LabCoat Model UC4S

Model Description
- Overlocked Seam
- Elasticated cuffs
- Stud fasten
- Collard
- Available with Pocket
- Box Quantity 100
- Sizes Small to XXL

MAX1-2-3

Model Description

- **Ultra-Chem MAX 1** is a lightweight, disposable cost effective chemical suit for protection against splashes and sprays of hazardous chemicals in Type 3 & 4 Applications. Ultra-MAX 1 combines an excellent chemical barrier - in many cases superior to similar competitive products - yet benefits from a very competitive price to help reduce expenditure on expensive chemical suits. See the Chem-Chem MAX 1 chemical permeation guide for information on specific chemicals
- Despite the effective chemical barrier, ChemMAX 1 fabric is light and flexible to enable an excellent comfort level for this type of garment.
- **Ultra-Chem MAX 2** is a lightweight, disposable chemical suit for protection against splashes and sprays of hazardous chemicals in Type 3 & 4 Applications.
- The use of tried and trusted Saranex® chemical barrier combined with a bi-component substrate offers excellent chemical protection in a suit that combines excellent protection with a superior softness and flexibility for a high level of comfort in this type of coverall.
- Ultra-Chem MAX 2 is an excellent alternative to the more expensive types of suit available.
- **Ultra-Chem MAX 3** uses multi-layer composite technology featuring an EVOH barrier film and low density polyethylene ties layers to enable an effective and tough high barrier to a wide range of hazardous chemicals.
- EVOH barrier film is commonly used in chemical barrier fabrics to provide a high barrier to a wide range of hazardous chemicals. However, often these fabrics are stiff and unweildy.
- We have used our long experience in the manufacture of disposable protective clothing to produce a fabric that uses EVOH film in a fabric that is soft and flexible yet at the same time tough and durable.
- Anti-Static requirements (surface Resistance) EN 1149-1*
- Protection against particulate radioactive contamination according to EN 1073-2
- Biological Protection tested according to EN 14126:2003
- Category 3 complex design
- Type 4: Protection against liquid aerosols* EN 14605
- Type 3: Protection against pressurised liquid chemicals* EN 14605

Applications

- Tank and liquid chemical storage vessel cleaning
- Pressure Spray applications
- Agricultral Spraying and agricultural chemical handling
- Liquid chemical handling
- Waste and hazardous material disposal
- Chemical spill handling
- Medical applications and exposure to biological hazards
- Pharmaceutical industry
- Bio engineering & nuclear industry.

Ultra-Chem® Max 1

- High density polyethylene film barrier laminated to spunbond polypropylene substrate... For cost effective chemical protection.
- Constructed with stitched and taped seams for superior protection and strength.
- Design features for double zip / storm flap front fastening for improved protection and quick and easy donning and removal.
- Lightweight and flexible material for optimum comfort and protection.
- Reinforced knee-pads for comfort and durability.
- Bright yellow colour for easy identification.

Finished garment test

Test number	Description	Result Max1	Max2	Max3
EN 14065 (type 4)	Chemical spray	PASS	PASS	PASS
EN 14965 (Type 3)	Chemical jet spray	PASS	PASS	PASS
EN 5082	Seam Strength	104.9	148.3	179.2

Chemical repellency – EN

Chemical	Cas No	Max1	Max2	Max	Chemical	Cas No	Max1	Max2	Max
Acetic Acid	64-19-7	nt	480	480	Chlorosulfuric Acid	7790-94-5	nt	480	nt
Acetic Anhydride	108-24-7	nt	480	480	Crotonaldeldehyde	123-73-9	nt	480	nt
Acetone	67-64-1	imm.	480	480	Cyclohexane	110-82-7	nt	nt	480
Acetonitrile	75-05-8	480	480	480	Cyclohexanone	108-94-1	nt	48	nt
Acrolein	107-02-08	nt	11	480	Cyclohexyl Isocyanate	3173-53-3	nt	5	nt
Acrylic Acid	79-10-7	120	480	480	1,2-Dichloroethane	107-06-2	nt	480	480
Acrylonitrile	107-13-1	nt	480	480	Dichloromethane	75-09-2	imm.	imm.	480
Allyl Alcohol	107-18-6	nt	nt	480	1,2-Dichloropropane	78-87-5	nt	480	nt
Ammonia Gas	7664-41-7	imm.	15	480	Diesel Fuel	68334-30-5	nt	nt	480
Amyle Acetate	628-63-7	Nt	nt	480	Diethylamine	109-89-7	imm.	15	imm.
Aniline	62-53-3	nt	480	480	Dimethylacetamide	127-19-5	nt	45	nt
Benzene	71-43-2	nt	imm.	480	Dimethylsulfoxide	67-68-5	nt	nt	480
Benzyl Alcohol	100-51-6	nt	480	nt	Dimethyl Formamide	68-12-2	480	480	480
Bromine	7726-95-6	nt	imm.	imm.	Dinoseb	88-85-7	nt	nt	480
n-Butanol	71-36-3	nt	480	nt	Epichlorohydrin	106-89-8	nt	260	480
n-Butyl Ether	142-96-1	nt	nt	480	Ethanol Amine	141-43-5	nt	nt	480
Butraldehylde	123-72-8	nt	480	nt	Ethyl Acetate	141-78-6	imm.	480	480
1,3-Butadiene	106-99-0	imm.	480	480	Ethyl Benzene	100-41-4	nt	nt	480
Carbon Disulfide	75-15-0	480	imm.	480	Ethylene Glycol	107-21-1	480	480	480
Carbon Monoxide	630-08-0	nt	480	320	Ethylene Oxide Gas	75-21-8	480	480	480
Chlorine Gas	7782-50-5	imm.	480	480	Formaldehyde	50-00-0	nt	480	480
2-Chloroethanol	107-07-3	480	-	-	Formic Acid	64-18-6	480	480	480
Chloroacetone	78-95-5	nt	480	nt	Gasoline	86290-81-5	nt	480	480
Chlorobenzene	108-90-7	nt	nt	9					

TYPE 3 TYPE 4 TYPE 5 TYPE 6

Ultra-Chem®

Ultra-Chem® Max 2

- Saranex® 23P barrier film bonded to a flexible bi-component spunbonded substrate provides excellent chemical protection in a soft and flexible fabric.
- Constructed with stitched and taped seams for superior protection and strength.
- Design features for double zip / storm flap front fastening for improved protection and quick and easy donning and removal.
- Lightweight and flexible material for optimum comfort and protection.
- Reinforced knee-pads for comfort and durability.
- Saranex® film provides excellent protection with strength and flexibility for durability and comfort.
- White colour for easy identification.

Ultra-Chem® Max 3

- EVOH barrier film provides the ultimate chemical barrier film in disposable materials.
- Constructed with stitched and taped seams for superior protection and strength.
- Design features for double zip / storm flap front fastening for improved protection and quick and easy donning and removal.
- Despite the high chemical barrier, Ultra-Chem MAX 3 material is suprisingly soft flexible and light.
- Reinforced knee-pads for comfort and durability.
- Grey colour for easy identification.
- Ultra-Chem MAX 3 has been tested against the following chemical warfare agents to ASTM-F-739-99a for military and home defence applications:
  Soman (GD) - pass
  Sulfur Mustard (HD) - pass
- Available to order in a “Front-line” version - featuring glove and boot overflaps....

Fabric profile test

Test number	Description	Result Max1	Max2	Max3
EN 530 Class 2	Abrasion	100, 500	100, 500	100, 500
EN 863 Class 2	Puncture Resistance	10.9 N	11.8 N	11.4 N
ISO 2960 Class 1	Burst Strength	79.0 kn/m2	115.1 kn/m2	81.6/94.1kn
ISO 7854 Class 1	Flex Cracking	1000, 2500	1000K	15000
ISO 9073 Class 3	Trapezoidal Tear	57.0/43.0 N	167.2/67.5	88.2/50.4 N
ERT 140.1 Class 3	Air Permeability	L/M2/S	L/M2/S	L/M2/S
EN 1149 – 1 (anti stat)	Surface Resistivity	Pass	Pass	Pass

Chemical repellency – EN

Chemical	Cas No	Max1	Max2	Max	Chemical	Cas No	Max1	Max2	Max
Acetic Acid	64-19-7	nt	480	480	Chlorosulfuric Acid	7790-94-5	nt	480	nt
Acetic Anhydride	108-24-7	nt	480	480	Crotonaldeldehyde	123-73-9	nt	480	nt
Acetone	67-64-1	imm.	480	480	Cyclohexane	110-82-7	nt	nt	480
Acetonitrile	75-05-8	480	480	480	Cyclohexanone	108-94-1	nt	48	nt
Acrolein	107-02-08	nt	11	480	Cyclohexyl Isocyanate	3173-53-3	nt	5	nt
Acrylic Acid	79-10-7	120	480	480	1,2-Dichloroethane	107-06-2	nt	480	480
Acrylonitrile	107-13-1	nt	480	480	Dichloromethane	75-09-2	imm.	imm.	480
Allyl Alcohol	107-18-6	nt	nt	480	1,2-Dichloropropane	78-87-5	nt	480	nt
Ammonia Gas	7664-41-7	imm.	15	480	Diesel Fuel	68334-30-5	nt	nt	480
Amyle Acetate	628-63-7	Nt	nt	480	Diethylamine	109-89-7	imm.	15	imm.
Aniline	62-53-3	nt	480	480	Dimethylacetamide	127-19-5	nt	45	nt
Benzene	71-43-2	nt	imm.	480	Dimethylsulfoxide	67-68-5	nt	nt	480
Benzyl Alcohol	100-51-6	nt	480	nt	Dimethyl Formamide	68-12-2	480	480	480
Bromine	7726-95-6	nt	imm.	imm.	Dinoseb	88-85-7	nt	nt	480
n-Butanol	71-36-3	nt	480	nt	Epichlorohydrin	106-89-8	nt	260	480
n-Butyl Ether	142-96-1	nt	nt	480	Ethanol Amine	141-43-5	nt	nt	480
Butraldehylde	123-72-8	nt	480	nt	Ethyl Acetate	141-78-6	imm.	480	480
1,3-Butadiene	106-99-0	imm.	480	480	Ethyl Benzene	100-41-4	nt	nt	480
Carbon Disulfide	75-15-0	480	imm.	480	Ethylene Glycol	107-21-1	480	480	480
Carbon Monoxide	630-08-0	nt	480	320	Ethylene Oxide Gas	75-21-8	480	480	480
Chlorine Gas	7782-50-5	imm.	480	480	Formaldehyde	50-00-0	nt	480	480
2-Chloroethanol	107-07-3	480	-	-	Formic Acid	64-18-6	480	480	480
Chloroacetone	78-95-5	nt	480	nt	Gasoline	86290-81-5	nt	480	480
Chlorobenzene	108-90-7	nt	nt	9					

Ultra-Chem®
Flame Retardant

TYPE 3 TYPE 4 TYPE 5 TYPE 6

Model Description

- Elastic face, waist, wrist & ankles.
- Double-folded zip flap for improved zip coverage.
- Inset sleeve provides freedom of movement. Two Way Zip.
- Two piece gusset to crotch for ease of movement.
- Three piece hood for better fitting around face & head.
- Tough bound seams for added protection.
- Two piece gusset to crotch for ease of movement.
- Three piece hood for better fitting around face
- Wear over a thermal protective garment to provide Type 6 splash protection or protection from dirt.
- Wear for protection against dirt and light splashes where contact with heat or flame is possible.
- Petrochemical plant and refining industries.
- Fuel distribution
- Foundries.
- Electrostatic discharge if properly grounded according to EN 1149-1*
- Category 3 complex design
- FR standared EN533: Index 1
- Type 6: Limited protection against liquid mist* EN 13034
- Type 5: Protection against airborne solid particulate chemicals* EN ISO 13982-1

Don't get burned by your disposable coverall..

Pyrolon disposable protective garments can be worn over Thermal Protective Garments without compromising thermal protection.In fact, not only does Pyrolon provide protection against liquid splashes (Types 3, 4, 5 and 6), but when worn over a TPG can actually increase overall thermal protection.

Thermal Mannequin Testing has shown conclusively that Pyrolon could be the difference between a life and death scenario when worn as a replacement for a standard disposable worn over a TPG. **Predicted Body Burn (PBB) from thermal mannequin testing shows the effect of wearing different coveralls over a Nomex IIIA Thermal.**

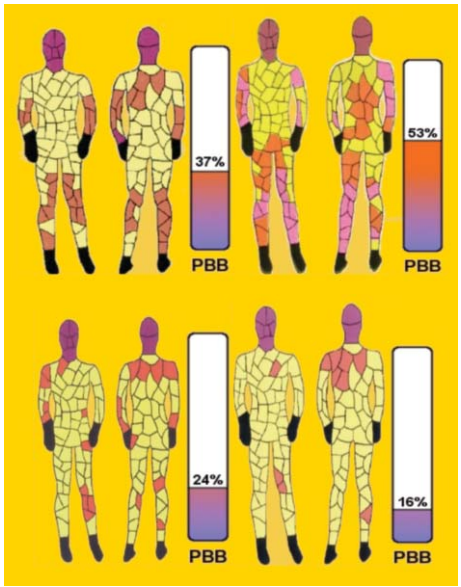
The Nomex TPG alone results in a PBB of 37%.
Wearing a **PE film** (in this case a microporous film) / **Polyproylene laminate** - commonly used for Type 5 & 6 coveralls - results in an increase in PBB to 53%... Almost certainly fatal. Heavier disposables, with more materials to burn, would tend to result in an even higher PBB.

A **Pyrolon CRFR coverall** worn over Nomex IIIA for Type 3 & 4 chemical protection results in a reduction of PBB

A **Pyrolon XT coverall** worn over Nomex IIIA for Type 5 & 6 splash protection results in a reduction of PBB to just 16%.

Ultra-Chem® XT

- **Ultra-Chem XT** is a lightweight, breathable material offering comfortable Type 5 & 6 protection against light splashes and dirt.
- Pyrolon fabrics are unique specialist hi-tech materials developed in the USA. They combine splash and spray protection to Type 5 & 6 with flame retardency to EN 531 (Index 1).
- FR properties mean the fabric will not burn when in contact with flame.
- The fabric chars without flaming or molten drips or debris.
- Thermal mannequin testing has shown that unlike standard disposables, will not reduce thermal protection when worn over a thermal protective overall (TPG)



Ultra-Chem® CRFR

- **Pyrolon CRFR** is a Type 3 & 4 chemical splash suit featuring sealed seams, a double zip and storm flap front fastening and protection against a broad range of commonly used chemicals.
- Pyrolon fabrics are unique specialist hi-tech materials developed in the USA. They combine splash and spray protection to Types 3 & 4 (Pyrolon CRFR) with flame retardency to EN 531 (Index 1).
- FR properties mean the fabric will not burn when in contact with flame.
- Fully taped seams to provide full seal against penetration .
- Zip front features double storm flap with double zip. Making it more effective and efficient than the double tape or Velcro flap sealing.
- The fabric chars without flaming or molten drips or debris.
- Elastic face, waist, wrist & ankles.
- Double-folded zip flap for improved zip coverage.
- Inset sleeve provides freedom of movement. Two Way Zip.
- Tank and liquid chemical storage vessel cleaning
- Pressure Spray applications
- Agricultral Spraying and agricultural chemical handling
- Liquid chemical handling
- Waste and hazardous material disposal
- Chemical spill handling
- Medical applications and exposure to biological hazards
- Pharmaceutical industry
- Bio engineering & nuclear industry.
- Electrostatic discharge if properly grounded according to EN 1149-1*
- Category 3 complex design
- FR standared EN533: Index 1
- Type 4: Protection against liquid aerosols* EN 14605
- Type 3: Protection against pressurised liquid chemicals* EN 14605

EN533 INDEX 1 | Category III | EN 1073-2 | EN 1149-1

Don't get burned by your disposable coverall..

Ultra-Chem Pyrolon disposable protective garments can be worn over Thermal Protective Garments without compromising thermal protection.In fact, not only does Pyrolon provide protection against liquid splashes (Types 3, 4, 5 and 6), but when worn over a TPG can actually increase overall thermal protection.

Ultra-Chem® Polypropylene

Ultra-Chem® UCPP (White)

Ultra-Chem® UCPP (Blue)

Ultra-Chem® UCPP (Red)

Product Specification

- Made from non woven, spunbonded polypropylene (50gsm / msq) limited dust barrier properties, good strength; softness and moisture vapour transmission for enhanced user comfort.

Applications

- Hygiene Rules/Food Processing
- Clean Areas/Disposal Operations
- Protection against dusts and light splashes only
- Pharmastical
- Food Industry
- General cleaning and maintenance applications
- Note: This garment is only recommended to prevent stains of non dangerous products.

Model Description

- Minimal Risk
- Category 1
- 50g/m2 Non-Woven PolyPropylene
- Elastic face, waist, wrist & ankles.
- Double-folded zip flap for improved zip coverage.
- Two Way Zip.
- Available hooded or collared.
- Individually packaged in boxes of 50

Ultra-Chem® UCPP4S

Stud Fasten

Model Description

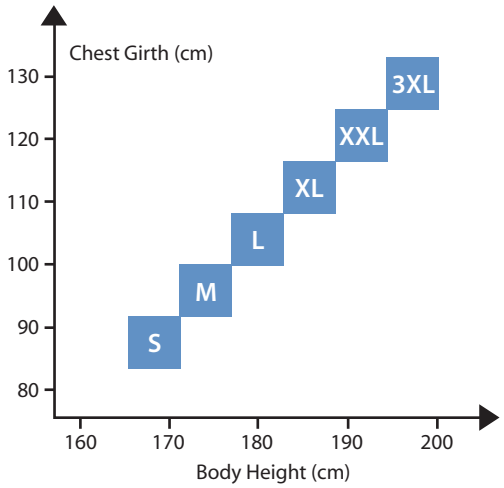
- Minimal Risk
- Category 1
- 50g/m2 Non-Woven PolyPropylene
- Collar, elasticated Cuffs
- Stud fasten with 5 snappers.
- Available with pocket
- Availabe in colours, white, blue
- Individually packaged in boxes of 50

Ultra-Chem® UCPP4Z

Velcro Fasten

Model Description

- Minimal Risk
- Category 1
- 50g/m2 Non-Woven PolyPropylene
- Collar, elasticated cuffs.
- Availabe in colours, white, blue
- Velcro Fasten
- Individually packaged in boxes of 50



Size	Body Height (cm)	Chest Girth (cm)
Small	164 - 170	84 - 92
Medium	170 - 176	92 - 100
Large	176 - 182	100 - 108
Xlarge	182 - 188	108 - 116
XXLarge	189 - 194	116 - 124
XXXLarge	194 - 200	124 - 132

Note: Sizes quoted are recommended dimensions of the wearer rather than the garment dimensions.

Ultra-Chem garments are generously sized to allow full freedom of movement. The charts show the appropriate size choice for ranges of chest and height dimensions of the wearer.

Ultra-Chem Food Trade

PE Aprons 30 micron

Model Description

- LD Polyethylene
- Dispenser or Roll
- Standard Width 69cms, Lengths - 107, 117, 122, 138cms
- Available in 5 Colours White. Blue, Red, Green, Yellow
- 30 microns Thickness
- Cat I Minimal Risk
- Applications: Hygiene Rules/Food Processing, Dispensing/Education
- Packaging: 100 pcs/Dispenser, 10/Case 200 pcs/Roll, 5/Case 1000 pcs
- Size lengths Lengths - 107, 117, 122, 138cms

PE Aprons 50 micron

Model Description

- Dispenser or Roll
- Standard Width 69cms or 84cms
- Lengths - 122, 138cms
- Available in White - Blue - Red - Green - Yellow
- 50 microns Thickness
- Applications: Hygiene Rules/Food Processing, Dispensing/Education
- Packaging: 100 pcs/Dispenser, 5/Case, 100 pcs/Roll, 5/Case, 500 pcs
- Cat I Minimal Risk

PVC Apron 100 micron

Model Description

- Roll packed
- Smooth PVC
- White, Blue or Clear
- Standard Width 90 cms
- Lengths - 122 cms
- Neck/Waist Cord
- Non metal eyelets
- Applications: Hygiene Rules/Food Processing/Dispensing, Education
- Packaging: 25 Pieces
- Cat I Minimal Risk

PE Visitor's coat

Model Description

- 150 cm Chest, 130 cm Length
- Compact Sachet Pack
- Front Popper Fasterners
- Blue, Red, White
- Applications: Hygiene Rules/Food Processing, Clean Areas
- Packaging: 10 pcs/Poly Bag 50 Bags/Case 500 pcs
- Sizes: Standard
- CE Minimal Risk

Household Latex and Nitrile Glove

Model Description

- EN420 Medium Weight
- 5 Colours
- Patterned Grip Palm
- Flock liner
- Applications: Industrial/Domestic Cleaning, Food Processing/Handling
- Packaging: 1 pair/Pack 12 Packs/Poly Bag 12 Poly Bags/Case 144 pairs

Latex powder and powder free glove

Model Description

- Medical Grade – AQL 1.5 – conforms to EN 455
- Industrial Grade – AQL 4.0
- Powder and Powder free
- Low in latex proteins
- Natural colour
- Micro textured
- Beaded cuff

Vinyl Powderfree Glove

Model Description

- High Quality Polyvinyl Chloride No Powder Smooth Clear and Coloured Roll Cuff
- Applications: Clinical, Laboratories, Food Processing/Handling, Automotive, Assembly work
- EN420 EN455 (Medical)
- Packaging: 100 pcs/Dispenser Box 10 Dispensers/Case 1000 pcs

Nitrile Powdered Glove

Model Description

- Medical and Industrial
- Blue
- Micro Textured
- Powdered with Corn Starch
- Corn Starch Certified Free from GMO's
- Latex Free
- EN 420 EN455 (Medical)
- Improved Chemical and Cut Resistance
- Applications: Clinical, Laboratories, Food Processing/Handling, Engineering, Assembly work
- Packaging: 100 pcs/Dispenser Box 10 Dispensers/Case 1000 pcs

Vinyl Powdered Glove

Model Description

- High Quality Polyvinyl Chloride
- Powdered with Corn Starch, Corn Starch Certified Free from GMO's
- Clear and Coloured
- Roll Cuff
- EN 420, EN 455 (Medical)
- Applications: Clinical, Laboratories, Food Processing/Handling, Automotive, Assembly work
- Packaging: 100 pcs/Dispenser Box 10 Dispensers/Case 1000 pcs

Nitrile Powderfree Medical Glove

Model Description

- Medical and Industrial
- Blue/White
- Micro Textured
- No Powder
- Latex Free
- Improved Chemical and Cut Resistance
- Applications: Clinical, Laboratories, Food Processing/Handling, Engineering, Assembly work
- Packaging: 100 pcs/Dispenser Box 10 Dispensers/Case 1000 pcs

C.P.E. Overshoe 16"

Model Description

- Embossed for Grip
- Elasticated
- Size 40 cm (16")
- Applications: Hygiene Rules/Food Processing
- Packaging: 100 pcs/Poly Bag 20 Bags/Case 2000 pcs (1000 Pairs)
- CE Minimal Risk
- Colour: Blue

Delux anti slip overshoe

Model Description

- Compressed PE Sole - 0.30 mm, PP Upper - 0.25 mm , 40 cm (16"),
- Embossed for Grip
- Elastic Ankle Closure
- Diamond pattern sole
- Material - C.P.E / Non woven
- Elasticated upper
- Blue / White & White / White,
- Applications: Hygiene Rules, Food Processing, Clean Areas
- Packaging: 20 pcs/Poly Bag 20 Bags/Case 400 pcs
- CE Minimal Risk

Mob Cap

Model Description

- Mob cap Pleated.
- 12 & 14 g/m2 Spun Polypropylene
- 52 cm Diameter
- Double Stitch
- Elasticated Head Band
- Contrast Stitching
- 7 Colours
- Applications: Hygiene Rules/Food Processing/Handling
- Packaging: 100 pcs/Poly Pack 10 Packs/Case 1000 pcs
- Sizes: Standard 52cm
- CE Minimal Risk

Mob Cap detectable strip

Model Description

- Mob Cap non woven detactable strip.
- Metallic Strip
- Pleated for Compact Storage
- 52 cm Diameter
- 12 & 14 g/m2 Spun Polypropylene
- Double Stitch
- Elasticated Head Band
- Contrast Stitching
- Available in White - Blue - Red - Green - Yellow
- Applications: Hygiene Rules/Food Processing/Handling
- Packaging: 100 pcs/Poly Pack 10 Packs/Case 1000 pcs
- Sizes: Standard 52cm
- CE Minimal Risk

Snood Caps

Model Description

- Disposable Snood Caps.
- 40g/m2 14g/m2 Hair Snood
- 80g/m2 Peak
- Available in White - Blue - Red - Green - Yellow
- Fully elasticated
- Material - Non Woven
- Polythene bagged
- Applications: Hygiene Rules/Food Processing/Handling
- Packaging: 100 pcs/Dispensar 10 Dispensers/Case 1000 pcs
- Sizes: Standard 21cms

Beard cover

Model Description

- Spun polypropylene
- Elasticated edge
- Elasticated head loop

Bouffant cap 24"

Model Description

- Disposable Bouffant cap
- 14 g/m2 Spun Polypropylene
- 61 cm (24") Diameter
- Elastic Head Band
- Available in White - Blue - Red - Green - Yellow
- Applications: Hygiene Rules/Food Processing Packaging: 100 pcs/Poly Pack 10 Packs/Case 1000 pcs
- Sizes: Standard
- CE Minimal Risk

Balaclava

Model Description

- Spun polypropylene
- Economic protection
- Lightweight
- Available in blue and white

Nylon Hairnets

Model Description

- Disposable Nylon Hairnets.
- Nylon Mesh Elasticated Edge
- Non-Metalic End Clip
- Available in White - Blue - Red - Green - Yellow
- Applications: Hygiene Rules/Food Processing/Handling
- Packaging: 100 pcs/Poly Pack 10 Packs/Case 1000 pcs
- Sizes: Standard
- CE Minimal Risk

PE Oversleeve 16"

Model Description

- Polythene Disposable Oversleeve 16"
- Elasticated
- Material - Polythene
- Density – 0.4mm
- Applications: Hygiene Rules, Food Processing/Handling, Wet Work
- Packaging: 100 pcs/Poly Bag 20 Bags/Case 2000 pcs (1000 pairs)
- Available in White - Blue - Red - Green - Yellow
- CE Minimal Risk

We've got you covered...

Ultra-Chem®