

# ChemMax® Encapsulated Suits

ChemMax® Encapsulating suits use a fully encapsulating design including full hood with face visor and attached boots

- Rear entry encapsulating suit with 20mil PVC visor
- Flat and expanded back versions available (see styles below)
- Attached boots with boot over-flaps
- Rear mounted zip with storm flap
- One hood-mounted exhaust port with protective shroud to allow escape of exhaled air
- Elastic wrists (use with push-lock connection system - not supplied - optional extra)
- Spacious and generous design for comfort and freedom of movement
- Available in ChemMax® 1, 2, 3 and 4 Plus fabrics.
- Certified to Types 3 & 4. These are not gas-tight suits and are not suitable for protection against hazardous gases and vapors

## Physical Properties

Property	EN Standard	ChemMax® 1	ChemMax® 2	ChemMax® 3	ChemMax® 4 PLUS
		CE Class	CE Class	CE Class	CE Class
Abrasion Resistance	EN 530	2	6	6	6
Flex Cracking	ISO 7854	1	6	4	1
Trapezoidal Tear	ISO 9073	4/3	4	5/4	MD 5 / CD 4
Tensile Strength	EN 13934	3	3	3	3
Puncture Resistance	EN 863	2	2	2	2
Burst Strength	EN 13938	2	2	2	2
Seam Strength	EN 13935-2	170N	4	4	4



Expanded Back

Flat Back

## Chemical Permeation Test Data

For the latest data available refer use the Chemical Search Page (accessible at [www.lakeland.com](http://www.lakeland.com))

ChemMax® 3, ChemMax® 4 Plus and Interceptor® Plus fabrics work with the PermaSURE® smart-phone app for calculation of real world safe wear times according to temperature and the toxicity of the specific chemicals - with over 4000 chemicals in the database.

Permeation test data should not be used as an indication of safety or safe wear time and if used so can give a false impression of safety. Users may be coming into contact with a chemical without realising it.

Safe-wear times should be calculated taking into account permeation rate, temperature and chemical toxicity.

**WARNING!** These coveralls are not gas tight and are not suitable for protection in environments where hazardous gases and vapors may be present but will provide superior protection in more hazardous liquid chemical environments.

## ChemMax® Encapsulating Suit Styles



400

### Flat back with air inlet hose

To be worn with a breathing mask fed by compressed air hose. This can be fed through the air inlet hose to the mask worn inside the suit. The exhaust valve allows escape of exhaled air.  
Size: M - XXL



450

### Expanded back for internally worn self-contained breathing apparatus

To be worn with self-contained breathing apparatus for breathing purposes. The exhaust valve allows escape of exhaled air.  
Size: M - XXL

ChemMax® Encapsulated Suits are available in these fabrics



ChemMax® 1



ChemMax® 2



ChemMax® 3



ChemMax® 4



# Clothing For Protection against Hazardous Chemicals

Selecting the right chemical suit for the job is vital to ensure not only are workers properly protected but that they are not over-protected – which could mean paying more than you need for PPE and that workers suffer more discomfort than necessary.

Chemical protection is defined by **three key standards:**

Consider three key factors when selecting the most appropriate clothing for an application

**Type 4  
EN 14605**  
protection against sprays of hazardous liquids



**Type 3  
EN 14605**  
protection against jet sprays of hazardous liquids



**Type 1  
EN 943-1&2**  
protection against hazardous vapours and gases



**Type 4 Garments:**  
ChemMax® 1 EB  
MicroMax® TS Cool Suit  
ChemMax® Cool Suits  
Pyrolon™ CRFR Cool Suit

**Type 3 & 4 Garments:**  
ChemMax® 1 and 2  
ChemMax® 4 and 4  
Pyrolon™ CRFR, CBF

**Type 1 Garments:**  
Interceptor® Plus

*Note: Type 2 has been removed in the 2015 version of EN 943 so no longer exists.*

## 1. The chemical

- 'Breakthrough time' provided by (EN 6529 or ASTM F739) permeation tests can be used for comparison of fabrics but provides no information about how long you are safe.
- Consider the hazard presented by the chemical:  
*How toxic is it?*  
*Is it harmful in very small quantities?*  
*Is it carcinogenic or causes long term harm in other ways?*
- Is the application performed in a warm temperature? (permeation rates increase at higher temperatures). What effect does temperature have on the safe use time?
- Calculate a maximum safe use time using permeation rates, temperature & chemical toxicity.

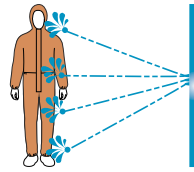
Use

**PermaSURE®**

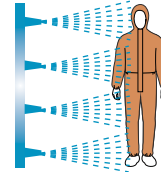
to calculate safe-use times for Lakeland chemical suits –  
**ChemMax® 4**  
**ChemMax® 4 Plus**  
**Interceptor® Plus**

## 2. Which hazard/spray type?

- Protection against gases and vapours may require a Type 1 gas-tight suit such as Interceptor® Plus
- The type of spray in the application indicates whether a Type 3, 4 or 6 garment is required.
- However, with a highly toxic chemical even if the spray type indicates a Type 6 garment, a higher level of protection might be appropriate.



**Type 3**  
Strong jet sprays



**Type 4**  
Shower sprays

Approximately 80% or more applications in the market are Type 4 and not Type 3.

## Type 3 or Type 4?

Determining that the application is Type 4 rather than Type 3 means selecting more comfortable options such as a **ChemMax® Cool Suit**.

## 3. Physical environment factors

- A variety of factors relating to the task and where it is performed can influence the choice of garment.
- Three groups of factors can be considered.

### Factors relating to :

The Task	The Environment	Others
For example: Kneeling / crawling? Climbing? Confined space? Mobility?	For example: Visibility?, Moving vehicles? Sharp edges?, Heat or flames? Warm conditions? Explosive atmosphere?	For example: Co-ordination with other PPE? Training required? Donning and doffing? Regulatory issues?

All such factors may influence the choice of fabric and garment design: (physical properties, colour, noise level and additional properties such as flammability).

CE Standard physical tests can be used to assess comparative performance in terms of durability using abrasion resistance, tear strength etc.



Use the QR Code or visit:

<https://www.lakeland.com/canada/brands/chemmax-1>

For more information about the factors that contribute to ensuring you select the most appropriate and effective chemical suit for the job, along with details on how to assess safe-wear times, download our **Guide to Chemical Suit Selection**



**In Canada**  
Toll Free: 800-489-9131  
Voice: 519-757-0700  
Fax: 519-757-0799  
Email: sales-canada@lakeland.com

[www.lakeland.com/ca](http://www.lakeland.com/ca)