

How to Use PermaSURE® A Quick Guide

Getting Started with PermaSURE®

> First, search the app store for “PermaSure” and download the app.



It is important to understand PermaSURE® properly to avoid misinterpretation. Registration is required and we recommend a minimum level of training before use. You can contact our PermaSURE® team at permasure@lakeland.com to arrange one-to-one or team training either on-line or face-to-face.

Once registration is complete and approved, the users’ account will be activated.



Using PermaSURE®: The PermaSURE® App Consists of Three Tabs.

TAB 1: Select Garment

TAB 2: Select Chemical

TAB 3: Calculate

Tabs 1 and 2 are for selection of garment, entry of task conditions such as temperature and duration of exposure, and selection of chemical.

Tab 3 relates to calculation of Safe-Wear Times



TAB 1: Garment Selection Screen: Select your preferred Lakeland Chemical Suit

> On Tab 1 touch the “Select Garment” button and choose your preferred garment from the list.



This might be the suit you have available or may be suitable based on permeation resistance test data (www.lakeland.com/chemical-search/). If your preferred suit does not provide sufficient Safe-Wear Time, the final tab includes a “Calculate for All” option to identify the lowest cost garment that offers the required protection.

Once your chosen garment is selected, the app will switch to the task parameters input screen where the Protection Factor of the chosen suit is given.

TAB 1: Garment Selection Screen: Input task parameters

Suit Temperature

> Enter the likely temperature of the chemical suit fabric during the task. Temperature is important because it affects the rate of permeation.



Measure fabric suit temperature with an infra-red thermometer, or make a “best guess” based on ambient temperature and conditions. Consider that suit temperature may change during the task. Because PermaSURE® accounts for temperature it is good policy to run it at different temperatures to check the effect on Safe-Wear Time. PermaSURE® can be used to generate tables of Safe-Wear Times based at different temperatures, making it the ideal tool for future task planning and management.

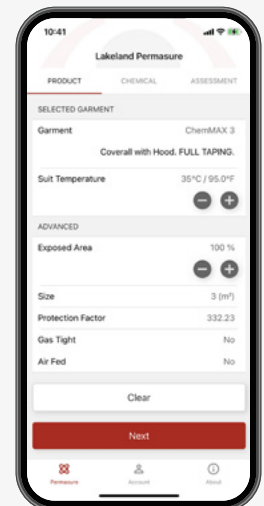
Exposed Area

> Enter the percentage of the suit surface that could be contaminated.



In many applications this might be 50% (one side of the suit). With high hazard chemicals wide safety margins are advised, so entering 100% is good practice.

Once the suit temperature and exposed area are entered, touch the “Next” button at the bottom of the screen (scroll down if required) to move to the next tab.



PermaSURE® contains over 2,400 chemicals!

TAB 2: Chemical Screen: Select the Chemical and Enter Chemical Temperature

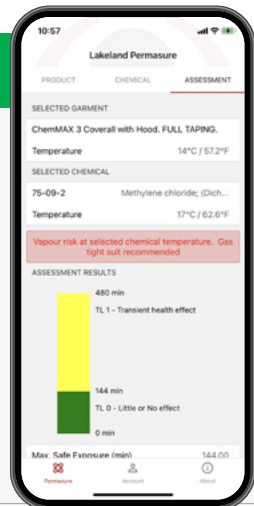
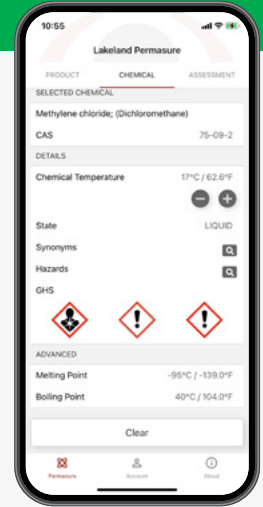
- > Touch the “Select Chemical” button
- > Touch the search entry at the top and type in the first few letters of the chemical you are using. The chemical list will filter to the chemicals that match. Once the one you require is listed, select it.



Chemicals often have several synonyms, so searching by the CAS number is more effective and more accurate. Enter the CAS number and the chemical will appear in the list.

- > After selecting the chemical, the app will switch to the chemical information screen. Here, the CAS number is confirmed, along with hazard information and synonyms, and its melting and boiling points.
- > Enter the chemical temperature. Again, consider if this might change during the task.

Once the information is reviewed and the temperature entered, touch the “Next” button at the bottom of the screen (scroll down if required) to move to the final tab



TAB 3: Results Screen: Calculate Safe-Wear Time for the Chosen Garment

- > On Tab 3, first, confirm the basic suit and chemical selection is correct then touch the “Calculate for [Selected Garment]” button.



The PermaSURE® App uses coloured bars to indicate times to three levels of toxicity:

TL1:	When temporary or transient effects may occur	Yellow Bar
TL2:	When more serious, permanent effects may occur	Orange Bar
TL3:	When potentially fatal effects may occur	Red Bar

- > Time until TL1 is reached is indicated by a green bar. This is the primary Safe Wear Time.
- > In some circumstances a user might enter the TL1 period, but no task should last into the TL 2 period.

TAB 3: Results Screen: Calculate Safe-Wear Times for all Garments

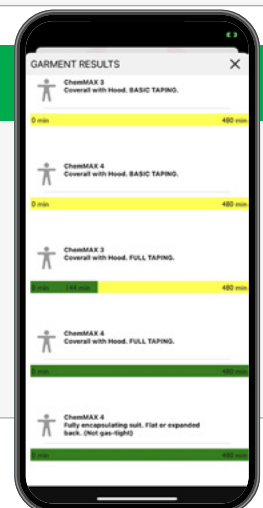
- > For Safe-Wear Times on all the garments in PermaSURE®, scroll down and touch the “Calculate for All” button.



> You can also scroll down for more information including permeation rate, protection factor, leakage and total ingress data.

> The lowest cost option is the first garment in the list that achieves the required Safe-Wear Time.

- > Using the coloured bar system, the app will show time to TL1, TL2, and TL3 (where applicable) for all the garments in the system.



The Future for Chemical Protection

PermaSURE® V4 represents the first whole suit Safe-Wear Time modeler that incorporates both fabric permeation and suit ensemble ingress, references established toxicological data and accounts for conditions such as temperature. It provides a never-before-available ability to manage chemical protection tasks on a data and science-driven basis.

For more information and guidance contact permasure@lakeland.com

PermaSURE is a whole suit chemical ingress modeller based on molecular permeation modelling and protection factors based on empirical inward leakage data. It should be used as part of a risk assessment and chemical suit selection process and does not imply any guarantee of protection as other factors may affect results and Safe-Wear Times.