

Recommendation on Chemical Resistance - Cytostatics

Sempermed gloves for single use have been tested in accordance with ASTM F 739 "Standard Test Method for Resistance of Protective Clothing Materials to Permeation by Liquids or Gases under Conditions of Continuous Contact", EN 374-3 „Protective gloves against chemicals and micro-organisms – Determination of resistance to permeation by chemicals“ or ASTM D 6978 "Assessment of Resistance of Medical Gloves to Permeation by Chemotherapy Drugs "by independent accredited test institutes.

Classification:
Not suitable
Suitable if changed before permeation breakthrough
Suitable for longer operations*

Permeation Rate:	
>1 µg/cm ² /min	Minimal Detection Rate according to EN 374-3 ¹⁾
< 0,1 µg/cm ² /min	Minimal Detection Rate according to ASTM F 739 ²⁾
< 0,01 µg/cm ² /min	Minimal Detection Rate according to ASTM D 6978 ³⁾

Caution: Damaged or swelling gloves shall be changed immediately!

*For reason of precaution it is recommended to change gloves after 2 hours!

TEST RESULTS by:

- ARDL Akron Rubber Development Laboratory, Ohio, USA
- ProQares, Rijswijk, NETHERLANDS

Breakthrough Detection Time (BDT) = Minutes (min)*

Chemotherapy Drug	mg/ml	Surgical gloves		Sempercure® examination gloves											
		Sempermed® Surpeme / Euroderm MC		Sempercure® Nitrile		Sempercure® Safe+		Sempercure® Skin ² /aloe		Sempercure® Shine+		Sempercure® Silk		Sempercure® Soft	
		Latex - NR		Nitrile - NBR		Nitrile - NBR		Nitrile - NBR		Nitrile - NBR		Nitrile - NBR		Nitrile - NBR	
		BDT		BDT		BDT		BDT		BDT		BDT		BDT	
5-Fluorouracil	50.0	35 ²⁾		> 240 ³⁾		> 240 ³⁾		> 240 ³⁾		> 240 ³⁾		> 240 ³⁾		> 480 ³⁾	
5-Fluorouracil	10.0	n.t.	n.t.	n.t.	n.t.	n.t.	n.t.	n.t.	n.t.	n.t.	n.t.	n.t.	n.t.	n.t.	n.t.
Carmustine (BiCNU)	3.3	15 ²⁾		> 240 ¹⁾		19 ³⁾		15 ³⁾		30 ³⁾		30 ³⁾		15 ³⁾	
Cisplatin	1.0	> 240 ²⁾		> 240 ¹⁾⁺³⁾		> 240 ¹⁾⁺³⁾		> 240 ³⁾		> 240 ³⁾		> 240 ³⁾		n.t.	n.t.
Cyclophosphamide (Cytoxan)	20.0	> 240 ²⁾		> 240 ³⁾		87 ³⁾		> 240 ³⁾		> 240 ³⁾		> 240 ³⁾		15 ³⁾	
Dacarbazine (DTIC)	10.0	> 240 ²⁾		> 240 ³⁾		> 240 ³⁾		> 240 ³⁾		> 240 ³⁾		> 240 ³⁾		n.t.	n.t.
Doxorubicin Hydrochloride	2.0	> 240 ²⁾		> 240 ³⁾		> 240 ³⁾		> 240 ³⁾		> 240 ³⁾		> 240 ³⁾		> 480 ³⁾	
Epirubicin	2.0	n.t.	n.t.	> 240 ³⁾		> 240 ³⁾		> 240 ³⁾		> 240 ³⁾		> 240 ³⁾		n.t.	n.t.
Etoposide	20.0	15 ²⁾		> 240 ¹⁾⁺³⁾		> 240 ³⁾		25 ³⁾		203 ³⁾		203 ³⁾		90 ³⁾	
Etoposide	1.0	n.t.	n.t.	n.t.	n.t.	n.t.	n.t.	n.t.	n.t.	n.t.	n.t.	n.t.	n.t.	n.t.	n.t.
Ifosfamid	50	n.t.	n.t.	480 ¹⁾		n.t.	n.t.	n.t.	n.t.	n.t.	n.t.	n.t.	n.t.	n.t.	n.t.
Melphalan (Alkeran)	5.0	> 480 ¹⁾		<10 ³⁾		n.t.	n.t.	<10 ³⁾		n.t.	n.t.	n.t.	n.t.	n.t.	n.t.
Methotrexate (Amethopterin Hydrate)	25.0	> 240 ²⁾		> 240 ³⁾		> 240 ³⁾		> 240 ³⁾		> 240 ³⁾		> 240 ³⁾		n.t.	n.t.
Methotrexate (Amethopterin Hydrate)	100.0	n.t.	n.t.	n.t.	n.t.	n.t.	n.t.	n.t.	n.t.	n.t.	n.t.	n.t.	n.t.	n.t.	n.t.
Mitomycin C	0.5	> 480 ¹⁾		> 240 ³⁾		n.t.	n.t.	> 480 ²⁾		> 480 ²⁾		> 480 ²⁾		n.t.	n.t.
Mitoxantrone	2.0	> 240 ²⁾		> 240 ³⁾		> 240 ¹⁾		> 480 ²⁾		> 480 ²⁾		> 480 ²⁾		n.t.	n.t.
Paclitaxel (Taxol)	6.0	> 240 ²⁾		> 240 ¹⁾⁺³⁾		> 240 ¹⁾⁺³⁾		> 240 ³⁾		> 240 ³⁾		> 240 ³⁾		<15 ³⁾	
Thio-Tepa	10.0	40 ²⁾		n.t.		30 ³⁾		<60 ³⁾		n.t.	n.t.	n.t.	n.t.	<75 ³⁾	
Vincristine	1.0	> 240 ³⁾		> 240 ³⁾		> 240 ³⁾		> 240 ³⁾		> 240 ³⁾		> 240 ³⁾		n.t.	n.t.

* Testing Temperature = 23,5°C / Concentration: according instruction leaflet

n.t. not tested

Disclaimer: Sempermed wants to state that the values for the permeation levels are based on tests in laboratory under fixed conditions and cannot reflect all actual conditions. As a rule, tests and certificates can only be regarded as general information and will not discharge the user from his duty to make sure before the use that the glove will correspond to his actual protection needs.

When working with materials harmful to the skin before starting to work please always check the glove for any defects.

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