Recommendation on Chemical Resistance – Cytostatics & Hazardous Chemicals

Below gloves for single use have been tested in accordance with ASTM D6978 “Assessment of Resistance of Medical Gloves to Permeation by Chemotherapy Drugs“ by independent accredited test institutes.

Classification:
Not suitable / recommended
Suitable if changed before permeation breakthrough
Suitable for longer procedures*

Permeation Rate:
The tests were performed according to ASTM D6978
Breakthrough Detection Time (BDT) = Minutes (min)

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**

Chemotherapy Drug	mg/ml	sempermed® velvet**	sempermed® green X-free	sempermed® skySense	sempermed® velvet XP	sempermed® safe**	sempermed® safe+	semperguard® Xpert	semperguard® iconiX
		NOF-030VB	NOF-033GR	NOF-032RB	NOF-035	NOF-047	NOF-065RB	NOT-063GB	NOF-085DB
		Nitrile – NBR	Nitrile – NBR	Nitrile – NBR	Nitrile – NBR	Nitrile – NBR	Nitrile – NBR	Nitrile – NBR	Nitrile – NBR
		BDT	BDT	BDT	BDT	BDT	BDT	BDT	BDT
5-Fluorouracil	50,0	> 240	> 240	> 240	> 240	> 240	> 240	> 240	> 240
Arsenic Trioxide	1,0	> 240	n/a	n/a	> 240	> 240	> 240	> 240	> 240
Azacitidine (Vidaza)	25,0	> 240	n/a	n/a	> 240	> 240	> 240	> 240	> 240
Bendamustine HCl	5,0	> 240	n/a	n/a	> 240	> 240	> 240	> 240	> 240
Bleomycin sulfate	15,0	> 240	n/a	n/a	> 240	> 240	> 240	> 240	> 240
Busulfan	6,0	> 240	n/a	n/a	> 240	> 240	> 240	> 240	> 240
Carboplatin	10,0	> 240	> 240	n/a	> 240	> 240	> 240	> 240	> 240
Carfilzomib	2,0	> 240	n/a	n/a	> 240	> 240	> 240	> 240	> 240
Carmustine (BiCNU)	3,3	12	11	1	12	12	23	68	77,6
Cetuximab	2,0	> 240	n/a	n/a	> 240	> 240	> 240	> 240	> 240
Chloroquine	50,0	> 240	n/a	n/a	> 240	> 240	> 240	> 240	> 240
Cisplatin	1,0	> 240	n/a	> 240	> 240	> 240	> 240	> 240	> 240
Cladribine	1,0	> 240	n/a	n/a	> 240	> 240	> 240	> 240	> 240
Cyclophosphamide (Cytoxan)	20,0	> 240	> 240	> 240	> 240	> 240	> 240	> 240	> 240
Cyclosporine	100,0	> 240	n/a	n/a	> 240	> 240	> 240	> 240	> 240
Cytarabine	100,0	> 240	n/a	n/a	> 240	> 240	> 240	> 240	> 240
Dacarbazine (DTIC)	10,0	> 240	n/a	n/a	> 240	> 240	> 240	> 240	> 240
Daunorubicin HCl	5,0	> 240	n/a	n/a	> 240	> 240	> 240	> 240	> 240
Decitibine	5,0	> 240	n/a	n/a	> 240	> 240	> 240	> 240	> 240
Docetaxel	10,0	> 240	n/a	n/a	> 240	> 240	> 240	> 240	> 240
Doxorubicin HCl	2,0	> 240	> 240	> 240	> 240	> 240	> 240	> 240	> 240
Epirubicin	2,0	> 240	n/a	n/a	> 240	> 240	> 240	> 240	> 240
Etoposide	20,0	> 240	> 240	> 240	> 240	> 240	> 240	> 240	> 240
Fentanyl Citrate Inj. (100µg/2ml)		> 240	n/a	n/a	> 240	> 240	> 240	> 240	> 240
Fludarabine	25,0	> 240	n/a	n/a	> 240	> 240	> 240	> 240	> 240
Fulvestrant	50,0	> 240	n/a	n/a	> 240	> 240	> 240	> 240	> 240
Gastric acid (simulated fluid)		> 240	n/a	n/a	> 240	> 240	> 240	> 240	> 240
Ganciclovir (Cytovene)	10,0	> 240	n/a	n/a	> 240	> 240	> 240	> 240	> 240
Gemcitabine HCl	38,0	> 240	n/a	n/a	> 240	> 240	> 240	> 240	> 240
Idarubicin HCl	1,0	> 240	n/a	n/a	> 240	> 240	> 240	> 240	> 240

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		NOF-030VB	NOF-033GR	NOF-032RB	NOF-035	NOF-047	NOF-065RB	NOT-063GB	NOF-085DB
		Nitrile – NBR	Nitrile – NBR	Nitrile – NBR	Nitrile – NBR	Nitrile – NBR	Nitrile – NBR	Nitrile – NBR	Nitrile – NBR
		BDT	BDT	BDT	BDT	BDT	BDT	BDT	BDT
Ifosfamid	**50,0**	> 240	n/a	n/a	> 240	> 240	> 240	> 240	> 240
Irinotecan HCl	**20,0**	> 240	n/a	n/a	> 240	> 240	> 240	> 240	> 240
Mechlorethamine HCl	**1,0**	> 240	n/a	n/a	> 240	> 240	> 240	> 240	> 240
Melphalan (Alkeran)	**5,0**	> 240	n/a	n/a	> 240	> 240	> 240	> 240	> 240
Mesna	**50,0**	> 240	n/a	n/a	> 240	> 240	> 240	> 240	> 240
Methotrexate (Amethopterine Hydrate)	**25,0**	> 240	n/a	> 240	> 240	> 240	> 240	> 240	> 240
Mitomycin C	**0,5**	> 240	> 240	> 240	> 240	> 240	> 240	> 240	> 240
Mitoxantrone HCl	**2,0**	> 240	n/a	n/a	> 240	> 240	> 240	> 240	> 240
Oxaliplatin	**5,0**	> 240	n/a	n/a	> 240	> 240	> 240	> 240	> 240
Paclitaxel (Taxol)	**6,0**	> 240	> 240	> 240	> 240	> 240	> 240	> 240	> 240
Pemetrexed	**25,0**	> 240	n/a	n/a	> 240	> 240	> 240	> 240	> 240
Pertuzumab	**30,0**	> 240	n/a	n/a	> 240	> 240	> 240	> 240	> 240
Propofol	**10,0**	> 240	n/a	n/a	> 240	> 240	> 240	> 240	> 240
Raltitrexed	**0,5**	> 240	n/a	n/a	> 240	> 240	> 240	> 240	> 240
Retrovir (Zidovudine)	**10,0**	> 240	n/a	n/a	> 240	> 240	> 240	> 240	> 240
Rituximab	**10,0**	> 240	n/a	n/a	> 240	> 240	> 240	> 240	> 240
Temsirolimus	**25,0**	> 240	n/a	n/a	> 240	> 240	> 240	> 240	> 240
Thio-Tepa	**10,0**	35	7	1	35	35	11	> 240	>240
Topotecan HCl	**1,0**	> 240	n/a	n/a	> 240	> 240	> 240	> 240	> 240
Trastuzumab	**21,0**	> 240	n/a	n/a	> 240	> 240	> 240	> 240	> 240
Triclosan	**2,0**	> 240	n/a	n/a	> 240	> 240	> 240	> 240	> 240
Trisenox (Arsenic Trioxide)	**1,0**	> 240	n/a	n/a	> 240	> 240	> 240	> 240	> 240
Velcade (Bortezomib)	**1,0**	> 240	n/a	n/a	> 240	> 240	> 240	> 240	> 240
Vinblastin sulfate	**1,0**	> 240	n/a	n/a	> 240	> 240	> 240	> 240	> 240
Vinorelbine	**10,0**	> 240	n/a	n/a	> 240	> 240	> 240	> 240	> 240
Vincristine sulfate	**1,0**	> 240	n/a	> 240	> 240	> 240	> 240	> 240	> 240
Zoledronic Acid	**0,8**	> 240	n/a	n/a	> 240	> 240	> 240	> 240	> 240

n/a ..... not available
** ..... Results also valid for the sterile version

IMPORTANT NOTE: The latest chemical resistance list can be found at www.sempermed.com. Please note that the product characteristics are directly dependent on the conditions of use and on the purity of the chemical substances concerned. The chemical resistance has been assessed under laboratory conditions and cannot reflect all actual conditions. When working with materials that are harmful to the skin, please always inspect the glove for any holes or tears prior to use. In principle, tests and certificates may only be regarded as general indications and do not exempt the user from the responsibility of making sure that the glove affords the protection requirements for the intended purpose prior to use. The chemical resistance recommendations do not form part of the specifications.

CAUTION: Failure to observe this information, in particular with regard to (chemical) resistance, frequency of use and tolerability of the gloves, can result in personal injury and/or material damage. HARPS does not accept any liability for incorrect use of the gloves. In case of doubt, obtain expert advice before use.

This document was issued electronically and is therefore valid without signature and has a validity of up to two years.

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