# Biogel® PI Micro range

## Chemotherapy agent permeation

Tested for use with chemotherapy agents

**Permeability:** ((Breakthrough time, BTT): is the time taken between the application of the test chemical into the test cell when the permeation rate reaches 0,01 µg/cm²/min detection (ASTM D6978-05)
**Test temperature:** For Cytotoxic agents 35°C ± 2°C

| Agent tested | CAS no. (active ingredient) | Concentration | Biogel PI Micro REF 485 ASTM D6978-05 | Biogel PI Micro Indicator System REF 483 ASTM D6978-05 |
|---|---|---|---|---|
| **Bleomycin** | 9041-93-4 | 15 mg/ml | >240 | >240 |
| **Busulfan** | 55-98-1 | 6 mg/ml | >240 | >240 |
| **Carboplatin** | 41575-94-4 | 10 mg/ml | >240 | >240 |
| **Carmustine*** | 154-93-8 | 3.3 mg/ml | 10.0 | >240 |
| **Cisplatin** | 15663-27-1 | 1 mg/ml | >240 | >240 |
| **Cyclophosphamide** | 50-18-0 | 20 mg/ml | >240 | >240 |
| **Cytarabine** | 147-94-4 | 100 mg/ml | >240 | >240 |
| **Dacarbazine** | 4342-03-4 | 10 mg/ml | >240 | >240 |
| **Doxorubicin Hydrochloride** | 23214-92-8 | 2 mg/ml | >240 | >240 |
| **Ellence** | 56420-45-2 | 2 mg/ml | >240 | >240 |
| **Etoposide** | 33419-42-0 | 20 mg/ml | >240 | >240 |
| **Fludarabine** | 21679-14-1 | 25 mg/ml | >240 | >240 |
| **Fluorouracil** | 51-21-8 | 50 mg/ml | >240 | >240 |
| **Idarubicin** | 57852-57-0 | 1 mg/ml | >240 | >240 |
| **Ifosfamide** | 3778-73-2 | 50 mg/ml | >240 | >240 |
| **Irinotecan** | 100286-90-6 | 20 mg/ml | >240 | >240 |
| **Mechlorethamine HCl** | 55-86-7 | 1 mg/ml | >240 | >240 |
| **Melphalan** | 148-82-3 | 5 mg/ml | >240 | >240 |
| **Methotrexate** | 59-05-2 | 25 mg/ml | >240 | >240 |
| **Mitomycin C** | 50-07-7 | 0.5 mg/ml | >240 | >240 |
| **Mitoxantrone** | 70476-82-3 | 2 mg/ml | >240 | >240 |
| **Oxaliplatin** | 63121-00-6 | 2 mg/ml | >240 | not tested |
| **Paclitaxel** | 33069-62-4 | 6 mg/ml | >240 | >240 |
| **Rituximab** | 174722-31-7 | 10 mg/ml | >240 | >240 |
| **Thiotepa*** | 52-24-4 | 10 mg/ml | 20.3 | >240 |
| **Vincristine Sulfate** | 57-22-7 | 1 mg/ml | >240 | >240 |

If the BTT for a single glove has been determined to be 240 min the assumption is that the BTT for Biogel indicator system, in the same range, will be equal or longer, and has therefore not been tested. In this case we simply indicate Not tested.

**Note**: The Biogel® PI Micro and Biogel® PI Micro Indicator® System surgical gloves are intended to be worn on the hands, usually in the surgical settings, to provide barrier against potentially infectious material and other contaminants.

In addition, these gloves were tested at an independent test facility for use with chemotherapy drugs in accordance with ASTM D6978-05 Standard Practice for Assessment of Resistance of Medical Gloves to Permeation by Chemotherapy Drugs.

Breakthrough detection times may not reflect the actual duration of protection in the workplace due to other factors influencing the performance, such as temperature, abrasion, puncture, degradation etc.

Gloves used for protection against chemotherapy drug exposure should be selected specifically for the types of chemical used. Users should review this information with information provided with the drug e.g. drug labeling or material safety data sheets for the chemicals being used to determine an adequate level of protection for the intended use.

***Warning**: Do not use single gloves for protection against Carmustine (3.3 mg/ml) and Thiotepa (10 mg/ml). Consider to always double glove together with additional controls when handling chemotherapy drugs to avoid contact.

Performance level, breakthrough detection time

| not tested | <10 | 10-30 | 31-60 | 61-120 | 121-240 | >240 |
|---|---|---|---|---|---|---|

All times are in minutes

Find out more at www.molnlycke.com

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billes.se P263561 Biogel_PI Micro Range BTT 483 ref 485

# Biogel® PI Micro range

## Chemical permeation

**Permeability:** (Breakthrough time, BTT): is the time taken between the application of the test chemical into the test cell to when permeation rate reaches 1 µg/cm²/min detection (EN 16523-1:2015 equivalent to EN 374-3)
**Test temperature:** For Chemicals 23°C ± 1°C

| | | | Biogel PI Micro REF 485 | Biogel PI Micro Indicator System REF 483 |
|---|---|---|---|---|
| **Chemical tested** | **CAS no.** (active ingredient) | **Concentration** | **EN 16523-1** 1 µg/cm²/min | **EN 16523-1** 1 µg/cm²/min |
| **Cidex OPA** | 643-79-8 | 100% | >480 | >480 |
| **Ethyl alcohol** (Ethanol) | 64-17-5 | 100% | 3 | 21 |
| **Formaldehyde** | 50-00-0 | 40% | 210 | >480 |
| **Glutaraldehyde** | 111-30-8 | 3% | >480 | >480 |
| **Chorhexidine gluconate** | 18472-51-0 | 4% | >480 | >480 |
| **Clorhexidine gluconate in 70% Isopropyl alcohol** | 18472-51-0 | 0.5% | >480 | >480 |
| **Hydrogen peroxide** | 7722-84-1 | 30% | >480 | >480 |
| **Isopropyl alcohol** (Isopropanol) | 67-63-0 | 100% | 6.1 | 36 |
| **Methyl alcohol** (Methanol) | 67-56-1 | 100% | 2.1 | 10 |
| **Methyl methacrylate in bone cement** | 80-62-6 | 100% | 1.5 | 6.2 |
| **Mineral oil** | 8042-47-5 | 100% | 81 | >480 |
| **Peracetic acid** | 79-21-0 | 5% | <1 | 31 |
| **Phenol 7%** | 108-95-2 | 7% | 10 | 69 |
| **Phenol 70%** | 108-95-2 | 70% | 11 | 82 |
| **Sodium hypochlorite** | 7681-52-9 | 13% | >480 | >480 |
| **Povidone Iodine antiseptic** | 25655-41-8 | 30% | >480 | >480 |
| **Povidone Iodine scrub** | 25655-41-8 | 30% | >480 | >480 |
| **Povidone Iodine tincture** | 25655-41-8 | 10% | >480 | >480 |
| **Povidone Iodine antiseptic solution** | 25655-41-8 | 10% | >480 | >480 |
| **Povidone Iodine surgical scrub** | 25655-41-8 | 8% | >480 | >480 |

If the BTT for a single glove has been determined to be 480 min the assumption is that the BTT for Biogel indicator system, in the same range, will be equal or longer, and has therefore not been tested. In this case we simply indicate Not tested.

The performance level for each glove is classified based on their breakthrough time (EN 16523-1) in accordance to EN 374-1.

Review Material Safety Datasheet for all chemicals to be used to determined the required protection level.

Recommendations should be made to users that adoption of a suitable gloving choice should be based on the type of exposure to the chemical that the glove will experience during wear.

Performance level, breakthrough detection time

| not tested | Level 0 ≤10 | Level 1 >10 | Level 2 >30 | Level 3 >60 | Level 4 >120 | Level 5 >240 | Level 6 >480 |
|---|---|---|---|---|---|---|---|

All times are in minutes

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