



Chemical Resistance

Medical Gloves | Vasco[®], Manufix[®]

The B. Braun powder-free medical examination gloves Vasco[®] Sensitive, Manufix[®] Sensitive, Manufix[®] free, and the powder-free surgical gloves Vasco[®] OP Sensitive and Vasco[®] OP free have been tested in accordance with EN 374-3 "Determination of resistance to permeation by chemicals" by independent accredited institutions.

EN 374-1 PERFORMANCE RATINGS, SECTION 5.2 PERMEATION

| Measured time to perforation | Protective index | Measured time to perforation | Protective index |
|------------------------------|---|------------------------------|------------------|
| Immediate | Not recommended | > 60 min | Class 3 |
| 1 – 11 min | Splash guard only, change gloves immediately after contact | > 120 min | Class 4 |
| > 10 min | Class 1 | > 240 min | Class 5 |
| > 30 min | Class 2 | > 480 min | Class 6 |

NT: NOT TESTED

TEST RESULTS – TIMES TO PERFORATION ACCORDING TO EN 374-3 IN MINUTES

| Chemical (synonyms) | Examination Gloves | | Surgical Gloves | |
|---|---|--------------------------------------|--|--|
| | Vasco [®] Sensitive Manufix [®] Sensitive latex | Manufix [®] free nitrile | Vasco [®] OP Sensitive latex | Vasco [®] OP free polyisoprene |
| Acetic acid (10%) (acetyl acid, methyl carboxylic acid) | class 6 | class 6 | NT | NT |
| Acetone (2- propanone, ketone propane) | not recommended | not recommended | not recommended | not recommended |
| Acetonitrile (methyl cyanide, ethane nitrile) | splash guard | splash guard | splash guard | NT |
| Acrylamide (40%) (acrylic acid amide) | class 5 | class 6 | class 6 | class 4 |
| Ammonium hydroxide (25%) | splash guard | class 1 | splash guard | NT |
| Benzalconiumchloride liquid (quart. ammonium comp) | class 5 | NT | NT | NT |
| Chlorhexidine gluconate + ethanol + water | splash guard | splash guard | splash guard | splash guard |
| Chlorhexidine solid | class 6 | class 6 | class 6 | NT |
| Chloroform (trichloromethane, methyl trichloride) | not recommended | not recommended | not recommended | not recommended |
| Cyclohexanol solid (hexaline) | class 5 | class 6 | class 6 | NT |
| Dichloromethane (methylene dichloride, Freon 30) | not recommended | not recommended | not recommended | not recommended |
| Diesel fuel (100%) | splash guard | class 3 | splash guard | NT |



| Chemical (synonyms) | Examination Gloves | | Surgical Gloves | |
|---|---|-----------------------------|---------------------------------|-----------------------------------|
| | Vasco® Sensitive Manufix® Sensitive latex | Manufix® free nitrile | Vasco® OP Sensitive latex | Vasco® OP free polyisoprene |
| Diethylamine (DEA) | not recommended | not recommended | not recommended | not recommended |
| Diethyl ether (diethyl oxide, ethoxyethane) | not recommended | not recommended | splash guard | splash guard |
| Dimethyl sulphoxide DMSO (methyl sulfinyl methane) | splash guard | splash guard | class 1 | NT |
| Ethanol (20%) (ethyl alcohol) | splash guard | class 1 | class 2 | class 2 |
| Ethanol (40 %) (ethyl alcohol) | splash guard | splash guard | NT | NT |
| Ethanol (80%) (ethyl alcohol, methyl carbinol) | splash guard | splash guard | splash guard | class 1 |
| Ethidium bromide (1%) (homidium bromide) | class 6 | class 6 | class 6 | NT |
| Ethyl acetate (acetic ester, acetic acid ether) | not recommended | splash guard | splash guard | splash guard |
| Formaldehyde (37%) in methanol (10%) | splash guard | class 1 | class 1 | NT |
| Formaldehyde (37%) (formalin, formic acid aldehyde) | class 2 | class 6 | class 6 | NT |
| Gasoline (heavy, bp 150 – 190° - CAS 8232-32-4) | NT | class 2 | NT | NT |
| Glutaraldehyde (5%) (pentane-1,5- dial, glutaral) | class 5 | class 6 | class 6 | class 6 |
| Heptane – n | not recommended | class 1 | not recommended | not recommended |
| Hexane – n | not recommended | splash guard | not recommended | not recommended |
| Hydrochloric acid (36%) (hydrochloric acid) | class 1 | class 2 | class 1 | NT |
| Iodine (1%) in alcohol (70%) | NT | NT | class 6 | class 6 |
| Isopropyl alcohol (2- propanol, isopropanol, IPA) | splash guard | splash guard | splash guard | splash guard |
| Linseed oil | splash guard | splash guard | splash guard | NT |
| Methanol p.a. (methyl alcohol, carbinol) | not recommended | splash guard | splash guard | NT |
| Methyl methacrylate (MMA) | NT | NT | splash guard | splash guard |
| Nitric acid (10%) (azotic acid) | class 6 | class 6 | class 6 | class 6 |
| Nitric acid (50) (azotic acid) | class 4 | class 2 | class 4 | class 4 |
| Phenol (10%) (carbolic acid, hydroxybenzene) | splash guard | splash guard | splash guard | NT |
| Phosphoric acid (30%) (orthophosphoric acid) | NT | class 6 | NT | NT |
| Potassium hydroxide (30%) (caustic potash) | NT | class 6 | NT | NT |
| Sodium hydroxide (30%) (caustic soda) | class 5 | class 6 | NT | NT |
| Sulphuric acid (96%) (oil of vitriol, dihydrosulphate) | class 1 | class 1 | class 1 | class 1 |
| Toluene (methylbenzene, toluene, phenylmethane) | not recommended | not recommended | not recommended | not recommended |
| Trichloroethane (methylene chloroform, vinyl trichloride) | not recommended | not recommended | not recommended | not recommended |
| Xylene (dimethylbenzene, xylene) | not recommended | splash guard | splash guard | NT |

Note: All B. Braun gloves comply with EN 455 1-4 for medical gloves – the intended use is medical use (not personal protection acc. to EN 374). In general, it is recommended for medical gloves to change gloves after 1-2 hours of working. The product properties are directly dependant upon the conditions of use and purity of the chemicals. When working with substances harmful to the skin, the gloves should be checked in advance for any holes or tears. Tests and certificates can only be regarded as general information and cannot reflect all actual conditions. They do not release users from their responsibility to ensure before use that the gloves meet their current protection requirements. (All data refer to typical single values and may be subject to alterations.)