

Chemical Compatibility Guide for: SHOWA 731 Biodegradable Nitrile Gloves

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731

Material **Nitrile** LENGTH 13 in. / 330mm

CHEMICAL PERMEATION

CHEMICAL NAME	CAS NUMBER	DEGRADATION RATING				BDT	
		5m	30m	60m	240m	TTL ASTM F739	INT ASTM F1383
Formaldehyde 37%	50-00-0	NT	NT	NT	NT	>480	>240
2-Hydroxypropionic acid 85%	50-21-5	E	E	E	E	>480	>240
Carbon Tet	56-23-5	NT	NT	NT	NT	>240	>240
1,2-Propanediol	57-55-6	NT	NT	NT	NT	>480	>240
Diethyl Ether	60-29-7	NT	NT	NT	NT	6-10	6-10
Aminobenzene	62-53-3	NT	NT	NT	NT	1-5	1-5
Ethanol	64-17-5	NT	NT	NT	NT	>120	>240
Formic Acid	64-18-6	G	P	NR	NR	>60	NT
Formic Acid 90%	64-18-6	G	P	NR	NR	>60	NT
Acetic Acid 99%	64-19-7	NT	NT	NT	NT	>30	NT
Acetic Acid 50%	64-19-7	NT	NT	NT	NT	>480	>240
Acetic Acid 84%	64-19-7	NT	NT	NT	NT	>60	NT
Methanol	67-56-1	NT	NT	NT	NT	>10	>60
2-Propanol	67-63-0	NT	NT	NT	NT	>480	>240
2-Propanone	67-64-1	NT	NT	NT	NT	1-5	1-5
Chloroform	67-66-3	NT	NT	NT	NT	NT	1-5
Dimethylsulfoxide (DMSO)	67-68-5	NT	NT	NT	NT	>30	>30
Dimethyl Formamide	68-12-2	NT	NT	NT	NT	1-5	1-5
n-Propanol	71-23-8	NT	NT	NT	NT	>120	>240
Butanol	71-36-3	NT	NT	NT	NT	>480	>240
Alcohol, Amyl	71-41-0	NT	NT	NT	NT	>60	>120
Benzene	71-43-2	NT	NT	NT	NT	NT	>30
1,1,1-Trichloroethane	71-55-6	NT	NT	NT	NT	>10	>10
Chloride, Methyl (GAS)	74-87-3	E	E	E	E	>480	>240
Iodide, Methyl	74-88-4	NT	NT	NT	NT	1-5	1-5
Chloride, Vinyl (GAS)	75-01-4	E	E	E	E	>480	>240

ETHYLAMINE	75-04-7	NT	NT	NT	NT	1-5	1-5
ETHYLAMINE 70%	75-04-7	NT	NT	NT	NT	1-5	1-5
Acetonitrile	75-05-8	NT	NT	NT	NT	1-5	NT
Acetaldehyde	75-07-0	NT	NT	NT	NT	1-5	1-5
Chloride, Methylene	75-09-2	NT	NT	NT	NT	1-5	1-5
Carbon Disulfide	75-15-0	G	F	NR	NR	NR	NT
1,2-Epoxy Ethane (gas)	75-21-8	E	E	E	E	>10	NT
Bromoform	75-25-2	NT	NT	NT	NT	1-5	1-5
1,1-Dichloroethene	75-35-4	NT	NT	NT	NT	1-5	1-5
Acetyl Chloride	75-36-5	NT	NT	NT	NT	1-5	1-5
Nitromethane	75-52-5	NT	NT	NT	NT	1-5	1-5
1,2-Epoxypropane	75-56-9	NT	NT	NT	NT	1-5	NT
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	NT	NT	NT	NT	480	>120
Dimethyl Sulfate	77-78-1	NT	NT	NT	NT	>10	>10
Citric Acid 30%	77-92-9	E	E	E	E	>480	>240
Ethyl Phosphate	78-40-0	NT	NT	NT	NT	>120	NT
2-Butanol	78-83-1	NT	NT	NT	NT	>480	>240
Dichloropropane, 1,2-	78-87-5	NT	NT	NT	NT	>10	>10
2-Butanone	78-93-3	NT	NT	NT	NT	1-5	1-5
Ethylene, Trichloride	79-01-6	NT	NT	NT	NT	6-10	6-10
2-Propenamide(s) 99%	79-06-1	E	E	E	E	>480	>240
2-Propenamide 50%	79-06-1	E	E	E	E	>480	>240
Chloroacetic Acid 70%	79-11-8	NT	NT	NT	NT	>480	>240
Acetate, Methyl	79-20-9	NT	NT	NT	NT	1-5	NT
Nitro Propane	79-46-9	G	P	NR	NR	NR	>30
Methacrylate, Methyl	80-62-6	NT	NT	NT	NT	6-10	6-10
DBP	84-74-2	E	E	E	E	>480	>240
Pentachlorophenol 5%	87-86-5	E	E	E	E	>480	>240
Vinyl Pyrrolidinone	88-12-0	NT	NT	NT	NT	>10	>10
Biphenyl 27%	92-52-4	E	E	E	F	>480	>240
Dichlorobenzene O-	95-50-1	NT	NT	NT	NT	6-10	6-10
2-Aminotoluene	95-53-4	NT	NT	NT	NT	>60	>60
1,2,4 - Trimethyl Benzene 98%	95-63-6	E	E	E	E	>240	>480
Pseudocumene	95-63-6	NT	NT	NT	NT	>60	>60
Butanone Oxime	96-29-7	NT	NT	NT	NT	>240	>240
2-Ethylbutyl alcohol	97-95-0	NT	NT	NT	NT	>480	>240
2-Furaldehyde	98-01-1	NT	NT	NT	NT	6-10	6-10

Butyl Toluene, p-Tert	98-51-1	NT	NT	NT	NT	>480	>240
(1-Methylethyl)benzene	98-82-8	NT	NT	NT	NT	>10	>10
1-Phenylethanone	98-86-2	G	NR	NR	NR	NR	>30
Cyclohexyldimethylamine	98-94-2	NT	NT	NT	NT	>60	NT
Nitrobenzene	98-95-3	NT	NT	NT	NT	6-10	6-10
Benzene, Ethyl	100-41-4	NT	NT	NT	NT	>30	>30
Benzene, Vinyl	100-42-5	NT	NT	NT	NT	>10	>10
Alcohol, Benzyl	100-51-6	NT	NT	NT	NT	>10	>10
Benzaldehyde	100-52-7	NT	NT	NT	NT	6-10	6-10
4,4'-MDI,	101-68-8	NT	NT	NT	NT	>480	>240
4,4-Methylenedianiline	101-77-9	G	NR	NR	NR	NR	NT
Oxybisbenzene,1,1- (Dowtherm) 73%	101-84-8	E	E	E	F	>480	>240
2,2',2''-Nitrilotriethanol	102-71-6	NT	NT	NT	NT	>30	>120
Methyl Isobutyl Ketoxime	105-44-2	NT	NT	NT	NT	>480	>240
Dimethylpiperazine	106-58-1	NT	NT	NT	NT	>120	NT
±)-2-(Chloromethyl)oxiran	106-89-8	P	NR	NR	NR	NR	>10
1,3-Butadiene	106-99-0	E	E	E	E	>480	>240
1,2-Dichloroethane	107-06-2	NT	NT	NT	NT	1-5	1-5
Acrylonitrile	107-13-1	NT	NT	NT	NT	1-5	1-5
1,2-Diaminoethane 99%	107-15-3	E	E	G	G	>480	>240
1,2-Diaminoethane	107-15-3	NT	NT	NT	NT	>10	>10
2-Propen-1-ol	107-18-6	NT	NT	NT	NT	>30	>30
1,2-Ethanediol	107-21-1	E	E	E	E	>480	>240
Methyl Propyl Ketone	107-87-9	NT	NT	NT	NT	1-5	6-10
1-methoxy-2-propanol	107-98-2	NT	NT	NT	NT	>60	>120
Acetate, Vinyl	108-05-4	NT	NT	NT	NT	6-10	6-10
2-Pentanone, Methyl-	108-10-1	NT	NT	NT	NT	NT	>10
Acetate, Isopropyl	108-21-4	NT	NT	NT	NT	6-10	>10
PROPYLENE GLYCOL MONOMETHYL ETHER ACETATE	108-65-6	NT	NT	NT	NT	>30	>30
2,6-Dimethyl-4-Heptanone	108-83-8	NT	NT	NT	NT	>240	>240
Benzene, Methyl	108-88-3	NT	NT	NT	NT	>10	>10
Benzene Chloride	108-90-7	NT	NT	NT	NT	6-10	6-10
Cyclohexanol	108-93-0	NT	NT	NT	NT	>480	>240
Cyclohexanone	108-94-1	NT	NT	NT	NT	>30	>30
Carbolic Acid 89%	108-95-2	NT	NT	NT	NT	>10	>10
Carbolic Acid 10%	108-95-2	NT	NT	NT	NT	>10	>10
Carbolic Acid(s) 100%	108-95-2	NT	NT	NT	NT	>60	>60

Dimethyl Propaneamide, N,N'	109-55-7	NT	NT	NT	NT	6-10	6-10
Acetate, Propyl	109-60-4	E	F	P	NR	NR	>10
Pentane	109-66-0	NT	NT	NT	NT	>480	>240
1-Aminobutane	109-73-9	NT	NT	NT	NT	6-10	6-10
DEA	109-89-7	NT	NT	NT	NT	>10	>10
Diethylene Oxide	109-99-9	NT	NT	NT	NT	1-5	1-5
Hexane	110-54-3	NT	NT	NT	NT	>480	>240
2-Ethoxyethanol	110-80-5	E	G	P	NR	>30	>60
Cyclohexane	110-82-7	NT	NT	NT	NT	>480	>240
PYRIDINE	110-86-1	NT	NT	NT	NT	1-5	1-5
Diethylene oximide	110-91-8	NT	NT	NT	NT	1-5	1-5
1,5-Pentanedial 50%	111-30-8	NT	NT	NT	NT	>60	>240
2,2-iminodiethanol	111-42-2	NT	NT	NT	NT	>60	>60
Diethylene Glycol	111-46-6	E	E	E	E	>480	>240
n-Octane	111-65-9	NT	NT	NT	NT	>480	>240
2-Butoxyethanol	111-76-2	NT	NT	NT	NT	>120	>240
Diethylene Glycol Monomethyl Ether	111-77-3	E	E	E	E	>480	>240
n-Octanol	111-87-5	NT	NT	NT	NT	>480	>240
Ethylene Glycol Monobutyl Ether Acetate	112-07-2	E	E	E	E	>480	>240
1-Acetoxy-2-butoxyethane	112-15-2	E	E	E	E	>480	>240
Ethylene Glycol Monohexyl Ether	112-25-4	E	E	E	E	>480	>240
Butoxydiglycol	112-34-5	E	E	E	G	>480	>240
Methyltriglycol	112-35-6	E	E	E	G	>480	>240
Ethoxytriglycol	112-50-5	E	E	E	E	>480	>240
Diethylene Glycol Monohexyl Ether	112-59-4	E	E	E	E	>480	>240
Oleic Acid 98%	112-80-1	E	E	E	E	>480	>240
Oleic Acid	112-80-1	NT	NT	NT	NT	>480	>240
1,2,4-Trichlorobenzene	120-82-1	NT	NT	NT	NT	1-5	1-5
2,4-Dinitrotoluene 40%	121-14-2	G	P	NR	NR	NR	NT
TRIETHYLAMINE	121-44-8	NT	NT	NT	NT	>30	>120
4-Hydroxy-4-methyl-2-pentanone	123-42-2	NT	NT	NT	NT	>30	>60
3-Methyl-1-butanol	123-51-3	NT	NT	NT	NT	>480	>240
Butyl Acetate	123-86-4	NT	NT	NT	NT	>30	>30
1,4-Dioxane	123-91-1	NT	NT	NT	NT	6-10	6-10
3-Methylbutyl Ethanoate	123-92-2	NT	NT	NT	NT	6-10	6-10
Dimethylamine 40%	124-40-3	NT	NT	NT	NT	>480	>240
PERC	127-18-4	NT	NT	NT	NT	>120	>240

Dimethylacetamide N,N-	127-19-5	NT	NT	NT	NT	>10	>30
Butyl Acrylate	141-32-2	NT	NT	NT	NT	>30	>30
2-Aminoethanol	141-43-5	NT	NT	NT	NT	>60	>60
Ethyl Acetate	141-78-6	NT	NT	NT	NT	6-10	>10
Heptane	142-82-5	NT	NT	NT	NT	>480	>240
Butoxytriglycol	143-22-6	NT	NT	NT	NT	>30	>30
OXALIC ACID (s)	144-62-7	NT	NT	NT	NT	>480	>240
OXALIC ACID (s) 99%	144-62-7	NT	NT	NT	NT	480	>120
Dichlorotrifluoroethane	306-83-2	F	NR	NR	NR	NR	NT
Trimethyl Phosphate	512-56-1	NT	NT	NT	NT	>10	NT
2,2,4-Trimethyl Pentane	540-84-1	NT	NT	NT	NT	>480	>240
3-Methyl-2-Butanone	563-80-4	NT	NT	NT	NT	6-10	>10
4-Methyl-meta-phenylene diisocyanate	584-84-9	E	E	G	P	>240	>240
Butyl Ethylene	592-41-6	E	E	E	E	>480	>240
Amyl Acetate	628-63-7	NT	NT	NT	NT	>10	>10
Dichloropentane	628-76-2	NT	NT	NT	NT	>30	NT
Dimethyl Methyl Phosphonate	756-79-6	NT	NT	NT	NT	>120	NT
Methyl Pyrrolidone, N-	872-50-4	NT	NT	NT	NT	>10	>10
2-Bromoethyl Acetate	927-68-4	NT	NT	NT	NT	1-5	1-5
Hexamethyldisilazane	999-97-3	NT	NT	NT	NT	>480	>240
Glyphosate Roundup 95%	1071-83-6	E	E	E	E	>480	>240
Caustic Potash 10%	1310-58-3	NT	NT	NT	NT	>480	>240
Caustic Potash 99%	1310-58-3	NT	NT	NT	NT	>480	>240
Caustic Potash 45%	1310-58-3	NT	NT	NT	NT	>480	>240
Caustic Soda 98%	1310-73-2	NT	NT	NT	NT	>480	>240
Caustic Soda 40%	1310-73-2	NT	NT	NT	NT	>480	>240
Caustic Soda 10%	1310-73-2	NT	NT	NT	NT	>480	>240
Caustic Soda 50%	1310-73-2	NT	NT	NT	NT	>480	>240
Cresols	1319-77-3	NT	NT	NT	NT	>30	>30
Divinyl Benzene	1321-74-0	NT	NT	NT	NT	1-5	1-5
dimethyl benzene	1330-20-7	NT	NT	NT	NT	>30	>30
Tricresyl Phosphate	1330-78-5	E	E	E	E	>480	>240
Chromic Acid Solution 50%	1333-82-0	E	E	E	E	>480	>240
Ammonia Solution 29%	1336-21-6	NT	NT	NT	NT	>120	NT
Gallotannin 50%	1401-55-4	E	E	E	E	>480	>240
1-Propoxy-2-propanol	1569-01-3	E	E	E	E	>480	>240
Methyl-Tert-Butyl Ether	1634-04-4	NT	NT	NT	NT	>30	>30

Dichlorofluoroethane	1717-00-6	E	E	G	P	>30	NT
Dibutyl phenyl phosphate	2528-36-1	E	E	G	F	>480	>240
2-Propoxyethanol	2807-30-9	E	E	E	F	>240	>240
Butoxypropanol	5131-66-8	NT	NT	NT	NT	>480	>240
D-Limonene	5989-27-5	NT	NT	NT	NT	>30	>30
2,2'-dimorpholinodiethylether	6425-39-4	NT	NT	NT	NT	>240	NT
2-(2-Propoxyethoxy)ethanol	6881-94-3	E	E	E	E	>480	>240
Muriatic Acid	7647-01-0	E	E	E	E	>240	>480
Hydrochloric Acid 37%	7647-01-0	NT	NT	NT	NT	>480	>240
Muriatic Acid 20%	7647-01-0	NT	NT	NT	NT	>480	>240
Hydrochloric Acid 10%	7647-01-0	NT	NT	NT	NT	>480	>240
Muriatic Acid 32%	7647-01-0	NT	NT	NT	NT	>480	>240
Phosphoric Acid 85%	7664-38-2	NT	NT	NT	NT	>480	>240
Hydrofluoric Acid 48%	7664-39-3	NT	NT	NT	NT	>30	NT
Hydrofluoric Acid	7664-39-3	E	E	E	E	1-5	NT
Ammonia (Gas)	7664-41-7	E	E	E	E	>240	NT
Sulfuric Acid 70%	7664-93-9	NT	NT	NT	NT	>240	>240
Sulfuric Acid 10%	7664-93-9	NT	NT	NT	NT	>480	>240
Sulfuric Acid 25%	7664-93-9	NT	NT	NT	NT	>480	>240
Sulfuric Acid 50%	7664-93-9	NT	NT	NT	NT	>480	>240
Battery Acid 47%	7664-93-9	NT	NT	NT	NT	>480	>240
Sulfuric Acid 96%	7664-93-9	NT	NT	NT	NT	>60	NT
Bleach: Sodium Hypochlorite 6%	7681-52-9	E	E	E	E	>480	>240
Nitric Acid 65%	7697-37-2	NT	NT	NT	NT	>30	NT
Nitric Acid 50%	7697-37-2	NT	NT	NT	NT	>120	NT
Nitric Acid 70%	7697-37-2	NT	NT	NT	NT	>10	NT
Nitric Acid 10%	7697-37-2	NT	NT	NT	NT	>480	>240
Nitric Acid 23%	7697-37-2	NT	NT	NT	NT	>480	>240
Hydrogen Peroxide 30%	7722-84-1	NT	NT	NT	NT	>480	>240
Chlorine (Gas)	7782-50-5	E	E	E	E	>480	>240
Olive Oil	8001-25-0	E	E	E	E	NT	NT
Corn Oil	8001-30-7	E	E	E	E	NT	NT
Gasoline (unleaded)	8006-61-9	E	E	E	E	>480	>240
Fir Oil	8006-64-2	NT	NT	NT	NT	>240	>240
Aqua Regia	8007-56-5	E	E	E	E	>480	>240
Kerosene	8008-20-6	E	E	E	E	>480	>240
Mineral Oil - Light	8012-95-1	E	E	E	E	NT	NT

Ligroin	8032-32-4	NT	NT	NT	NT	>60	>240
Dry Cleaning Mineral Spirits	8052-41-3	NT	NT	NT	NT	>480	>240
Tetrachloropropene	10436-39-2	NT	NT	NT	NT	>30	>30
Polychlorinated Biphenyls 50%	11097-69-1	E	E	E	G	>480	>240
2-Chloro-2-Oxoethyl Acetate	13831-31-7	NT	NT	NT	NT	6-10	6-10
Fluoboric Acid 49%	16872-11-0	E	E	E	E	>480	>240
Butyl Dipropasol Solvent	29911-28-2	E	E	E	E	>480	>240
Antimony Tributyratate 95%	53856-17-0	NT	NT	NT	NT	>480	>240
Dry cleaning safety solvent	64475-85-0	E	E	E	E	>480	>240
Kerosene (hydrosulfurized)	64742-81-0	NT	NT	NT	NT	>480	>240
Diesel Oil	68334-30-5	NT	NT	NT	NT	>480	>240
Diesel Fuel	77650-28-3	E	E	E	E	>480	>240

DEGRADATION RATING

E=EXCELLENT; G=GOOD; F=FAIR; P=POOR; NR= NOT RECOMMENDED; NT=NOT TESTED

BDT=BREAKTHROUGH DETECTION TIME

THE LEVEL (0 TO 6) INDICATES THE TIME REQUIRED FOR DIFFERENT CHEMICALS TO PERMEATE THROUGH THE GLOVE.

TTL : TOTAL IMMERSION CHEMICAL PERMEATION BREAKTHROUGH TIME.

INT : INTERMITTENT CONTACT CHEMICAL PERMEATION BREAKTHROUGH TIME, ONE MINUTE IMMERSION OUT OF EVERY TEN, REPEATEDLY.

Warranty Limitations and Disclaimer Use

This information is provided solely as a convenience to help you evaluate our gloves in the end-user's particular application. It is the responsibility of the purchaser and/or user to determine the level of toxicity of the materials to be handled and to select the proper glove suitable for a particular application. The information provided reflects laboratory performance of gloves under carefully controlled conditions. SHOWA makes no guarantee of results and assumes no obligation or liability in connection with this information.