

Chemical Resistance: iQ Optima



Dec-2006

See appendix for key

Acids											
Acetic acid	CH ₃ COOH	Conc. > 98%	2min	A0	B0	C0	D0	E0	F0	G0	
			1 h	A0	B1	C0	D0	E0	F0	G0	
			24 h	A0	B2	C1	D0	E0	F1*	G0	
Chromic acid	H ₂ CrO ₄	40%	2min	A0	B0	C0	D0	E0	F0	G0	
			1 h	A5	B0	C0	D0	E0	F0	G0	
			24 h	A6	B0	C0	D0	E0	F0	G0	
Citric acid	C ₆ H ₈ O ₇	50%	1 h	A0	B0	C0	D0	E0	F0	G0	
			24 h	A0	B0	C0	D0	E0	F0	G0	
Hydrochloric acid	HCl	Conc. 37%	2min	A0	B1	C0	D0	E0	F0	G0	
			1 h	A0	B1	C0	D0	E0	F0	G0	
			24 h	A1	B2	C1	D0	E0	F0	G0	
Hydrofluoric acid	HF	40%	2min	A0	B0	C0	D0	E0	F0	G0	
			1 h	A0	B0	C0	D0	E0	F0	G0	
			24 h	A1	B1	C0	D1	E0	F1*	G0	
Phosphoric acid	H ₃ PO ₄	Conc. > 85%	2min	A0	B0	C0	D0	E0	F0	G0	
			1 h	A0	B1	C0	D0	E0	F0	G0	
			24 h	A1	B2	C0	D0	E0	F0	G0	
Phosphoric acid	H ₃ PO ₄	38%	24 h	A0	B0	C0	D0	E0	F0	G0	
Lactic acid	C ₃ H ₆ O ₃	Conc. 90%	1 h	A0	B0	C0	D0	E0	F0	G0	
			24 h	A0	B0	C0	D0	E0	F0	G0	
Nitric acid	HNO ₃	Conc. 65%	2min	A0	B1	C0	D0	E0	F0	G0	
			1 h	A5	B1	C1	D1	E0	F0	G0	
			24 h	A6	B2	C2	D2	E2	F6	G0	
Nitric acid	HNO ₃	30%	2min	A0	B0	C0	D0	E0	F0	G0	
			1 h	A0	B0	C0	D0	E0	F0	G0	
			24 h	A5	B2	C1	D1	E0	F0	G0	
Oxalic acid	C ₂ H ₂ O ₄	10%	1 h	A0	B0	C0	D0	E0	F0	G0	
			24 h	A0	B0	C0	D0	E0	F0	G0	
Sulphuric acid	H ₂ SO ₄	Conc. 98%	2min	A5	B2	C0	D0	E0	F0	G0	
			1 h	A5	B2	C1	D1	E1	F5	G0	H*
			24 h	A6	B2	C2	D2	E2	F6	G0	H
Sulphuric acid	H ₂ SO ₄	30%	1 h	A0	B0	C0	D0	E0	F0	G0	
			24 h	A0	B0	C0	D0	E0	F0	G0	
Organic solvents											
Acetone	C ₃ H ₆ O		2min	A0	B0	C0	D0	E0	F0	G0	
			1 h	A0	B2	C1	D1	E5	F0	G0	
			24 h	A0	B2	C2	D1	E5	F0	G0	
Acetonitrile	CH ₃ CN		2min	A0	B0	C0	D0	E0	F0	G0	
			1 h	A0	B1	C0	D0	E0	F1*	G0	
			24 h	A0	B2	C1	D0	E5	F1*	G0	
Carbon tetrachloride	CCl ₄		2min	A0	B0	C0	D0	E0	F0	G0	
			1 h	A0	B0	C0	D0	E0	F0	G0	
			24 h	A0	B0	C0	D0	E0	F0	G0	
Chloroform	CHCl ₃		2min	A0	B1	C0	D0	E0	F0	G0	
			1 h	A0	B2	C1	D1	E5	F1*	G0	
			24 h	A0	B2	C2	D1	E5	F5	G0	
Cyclohexane	C ₆ H ₁₂		2min	A0	B0	C0	D0	E0	F0	G0	
			1 h	A0	B0	C0	D0	E0	F0	G0	
			24 h	A0	B0	C0	D0	E0	F0	G0	
Cyclohexanone	C ₆ H ₁₀ O		2 min	A0	B0	C0	D0	E0	F0	G0	
			1 h	A0	B1	C2	D3	E5	F0	G0	H*
			24 h	A0	B2	C2	D4	E5	F5	G0	H*
Dichloroethylene	C ₂ H ₂ Cl ₂		2min	A0	B0	C0	D0	E0	F0	G0	
			1 h	A0	B0	C0	D0	E0	F1*	G0	
			24 h	A0	B1	C0	D0	E5	F1*	G0	
Methylene Chloride	CH ₂ Cl ₂		2min	A0	B1	C1	D1	E0	F0	G0	
			1 h	A0	B2	C2	D2	E5	F0	G0	H*
			24 h	A0	B2	C2	D2	E5	F0	G0	H*
Ethanol	C ₂ H ₅ OH		1 h	A0	B0	C0	D0	E0	F0	G0	
			24 h	A0	B3	C0	D0	E0	F0	G0	

Organic solvents,cont.										
Ethyl acetate	C ₄ H ₈ O ₂	2min	A0	B0	C0	D0	E0	F0	G0	
		1 h	A0	B0	C1	D1	E0	F1*	G0	
		24 h	A0	B0	C1	D1	E5	F5	G0	
Ethylene glycol	C ₂ H ₆ O ₂	24 h	A0	B0	C0	D0	E0	F0	G0	
Diethyl ether	(C ₂ H ₅) ₂ O	2min	A0	B0	C0	D0	E0	F0	G0	
		1 h	A0	B0	C0	D0	E0	F0	G0	
		24 h	A0	B0	C0	D0	E0	F0	G0	
n-Hexane	C ₆ H ₁₄	1 h	A0	B0	C0	D0	E0	F0	G0	
		24 h	A0	B0	C0	D0	E0	F0	G0	
Formaldehyde solution	CH ₂ O	37 %	24 h	A0	B0	C0	D0	E0	F0	G0
Methanol	CH ₃ OH	1 h	A0	B0	C0	D0	E0	F0	G0	
		24 h	A0	B3	C0	D0	E0	F0	G0	
Methyl ethyl ketone	C ₄ H ₈ O	2 min	A0	B0	C0	D0	E0	F0	G0	
		1 h	A0	B1	C1	D1	E5	F5	G0	
		24 h	A0	B1	C2	D2	E6	F5	G0	
Pet.ether (Ligroin)	CAS-nr: 80-110°C	1 h	A0	B0	C0	D0	E0	F0	G0	
Tetrachloroethylene	C ₂ Cl ₄	2min	A0	B0	C0	D0	E0	F0	G0	
		1 h	A0	B0	C0	D0	E0	F0	G0	
		24 h	A0	B1	C0	D0	E5	F0	G0	
Toluene	C ₇ H ₈	2min	A0	B0	C0	D0	E0	F0	G0	
		1 h	A0	B1	C0	D1	E0	F1*	G0	
		24 h	A0	B1	C1	D1	E5	F2*	G0	
Trichlorethylene	C ₂ HCl ₃	2min	A0	B0	C0	D0	E0	F0	G0	
		1 h	A0	B1	C0	D0	E0	F1*	G0	
		24 h	A0	B1	C1	D1	E5	F1*	G0	
White spirit	EG/EC/EF-nr: 265-191-7	2 min	A0	B0	C0	D0	E0	F0	G0	
		1 h	A0	B0	C0	D0	E0	F0	G0	
		24 h	A0	B0	C0	D0	E0	F0	G0	
Xylene	C ₈ H ₁₀	2 min	A0	B0	C0	D0	E0	F0	G0	
		1 h	A0	B0	C0	D1	E0	F0	G0	
		24 h	A0	B0	C0	D2	E5	F5	G0	
Alkali (Bases)										
Ammonia solution	NH ₃	25%	1 h	A0	B0	C0	D0	E0	F0	G0
			24 h	A0	B0	C0	D0	E0	F0	G0
Calcium hydroxide	Ca(OH) ₂	10%	1 h	A0	B0	C0	D0	E0	F0	G0
			24 h	A0	B0	C0	D0	E0	F0	G0
Sodium hydroxide	NaOH	50%	1 h	A0	B0	C0	D0	E0	F0	G0
			24 h	A0	B1	C0	D0	E0	F0	G0
Sodium hydroxide	NaOH	10%	1 h	A0	B0	C0	D0	E0	F0	G0
			24 h	A0	B3	C0	D0	E0	F0	G0
Salt solutions										
Ammonium carbonate	(NH ₄) ₂ CO ₃	10%	1 h	A0	B0	C0	D0	E0	F0	G0
			24 h	A0	B0	C0	D0	E0	F0	G0
Ammonium iron (III) sulphate	NH ₄ Fe(SO ₄) ₂	10%	1 h	A0	B0	C0	D0	E0	F0	G0
			24 h	A0	B0	C0	D0	E0	F0	G0
Calcium Chloride	CaCl ₂	Saturated	24 h	A0	B0	C0	D0	E0	F0	G0
Cobaltous chloride	CoCl ₂	10%	24 h	A0	B0	C0	D0	E0	F0	G0
Copper (II) sulphate	CuSO ₄	10%	1 h	A0	B0	C0	D0	E0	F0	G0
			24 h	A0	B0	C0	D0	E0	F0	G0
Ferrous (II) chloride	FeCl ₂	10%	1 h	A0	B0	C0	D0	E0	F0	G0
			24 h	A0	B0	C0	D0	E0	F0	G0
Ferric (III) chloride	FeCl ₃	10%	1 h	A0	B0	C0	D0	E0	F0	G0
			24 h	A0	B0	C0	D0	E0	F0	G0
Potassium iodide	KI	10%	24 h	A0	B0	C0	D0	E0	F0	G0
Potassium oxalate	K ₂ C ₂ O ₄	10%	24 h	A0	B0	C0	D0	E0	F0	G0
Potassium permanagnate	KMnO ₄	5% in H ₂ O	2 min	A5	B0	C0	D0	E0	F0	G0
			1 h	A6	B0	C0	D0	E0	F0	G0
Silver nitrate	AgNO ₃	2%	1 h	A0	B0	C0	D0	E0	F0	G0
			24 h	A0	B0	C0	D0	E0	F0	G0

Salt solutions cont.										
Sodium carbonate	Na ₂ CO ₃	20%	1 h	A0	B0	C0	D0	E0	F0	G0
			24 h	A0	B0	C0	D0	E0	F0	G0
Sodium thiosulphate	Na ₂ S ₂ O ₃	10%	1 h	A0	B0	C0	D0	E0	F0	G0
			24 h	A0	B0	C0	D0	E0	F0	G0
Medical Chemicals										
Aniline blue	2,5% in ethanol	1 h 24 h	A6 A6	B0 B0	C0 C0	D0 D0	E0 E0	F0 F0	G0 G0	
Betadine skin cleanser	75 mg/ml	1 h 24 h	A0 A5	B0 B0	C0 C0	D0 D0	E0 E0	F0 F0	G0 G0	
Bromcresol green	0,4 %	24 h	A0	B0	C0	D0	E0	F0	G0	
Eosin	1 % in ethanol	1 h 24 h	A6 A6	B0 B0	C0 C0	D0 D0	E0 E0	F0 F0	G0 G0	
Glutaraldehyde	25%	1 h 24 h	A0 A0	B0 B0	C0 C0	D0 D0	E0 E0	F0 F0	G0 G0	
Hematoxylin	5%	1 h 24 h	A0 A5	B0 B0	C0 C0	D0 D0	E0 E0	F0 F0	G0 G0	
Hibitane	0,5%	1 h 24 h	A0 A5	B0 B0	C0 C0	D0 D0	E0 E0	F0 F0	G0 G0	
Iodine	I ₂	2% in ethanol	2min 1 h	A6 A6	B0 B0	C0 C0	D0 D0	E0 E0	F0 F0	G0 G0
Iodoform		1% in ethanol	1 h 24 h	A6 A6	B0 B0	C0 C0	D0 D0	E0 E0	F0 F0	G0 G0
Methylrosanilinium		0,1%	1 h 24 h	A0 A5	B0 B0	C0 C0	D0 D0	E0 E0	F0 F0	G0 G0
Disinfectants/cleaning compounds										
Product	Manuf./Rep.									
Buraton 10F	Schülke & Mayr	1% 10%	24 h	A0 A0	B0 B0	C0 C0	D0 D0	E0 E0	F0 F0	G0 G0
"-										
Citrosteril	Fresenius	Cons.	24 h	A0	B0	C0	D0	E0	F0	G0
Debisan	Nordex	1 % 10%	24 h 24 h	A0 A0	B0 B0	C0 C0	D0 D0	E0 E0	F0 F0	G0 G0
Decon-Spore 200 Plus	Veltek Associates, Inc	0,5 % 5 %	24 h 24 h	A0 A0	B0 B0	C0 C0	D0 D0	E0 E0	F0 F0	G0 G0
Dialox	Gambro	Cons.	24 h	A0	B1	C0	D0	E0	F0	G0
Gevisol	Schülke & Mayr	0,5% 5%	24 h 24 h	A0 A5	B0 B1	C0	D0	E0	F0	G0
Incidur	Henkel	0,5% 3%	24 h 24 h	A0 A0	B0 B0	C0 C0	D0 D0	E0 E0	F0 F0	G0 G0
Lycetol AF	Schülke & Mayr	1% 5%	24 h 24 h	A0 A0	B0 B1	C0	D0	E0	F0	G0
Melsept	B Braun	1% 5%	24 h 24 h	A0 A0	B0 B0	C0	D0	E0	F0	G0
Perform	Schülke & Mayr	0,75% 2,5%	24 h 24 h	A0 A0	B0 B0	C0	D0	E0	F0	G0
Sekumatic	Henkel	0,5% 5%	24 h 24 h	A0 A0	B0 B0	C0	D0	E0	F0	G0
Sekusept Plus	Henkel	1% 5%	24 h 24 h	A0 A0	B0 B0	C0	D0	E0	F0	G0
Spitacid	Henkel	Cons.	1 h 24 h	A0 A0	B0 B1	C0	D0	E0	F0	G0
Terralin N	Schülke & Mayr	1% 10% 10%	24 h 1 h 24 h	A0 A0 A0	B0 B0 B1	C0 C0 C0	D0 D0 D0	E0 E0 E0	F0 F0 F0	G0 G0 G0
Tiutol KF	B. Braun	3% 10%	24 h 24 h	A0 A0	B0 B0	C0	D0	E0	F0	G0
Virkon S	Sterisol AB	1% 2,5%	24 h 24 h	A0 A0	B0 B0	C0	D0	E0	F0	G0
Incidin Plus	Ecolab	1% 5 %	24 h 24 h	A0 A0	B0 B0	C0	D0	E0	F0	G0

Disinfectants/cleaning compounds.		cont.								
Product	Manuf./Rep.									
Incidin Extra N	Ecolab	1%	24 h	A0	B0	C0	D0	E0	F0	G0
		5%	24 h	A0	B0	C0	D0	E0	F0	G0
Mikrobac forte	BODE	1%	24 h	A0	B0	C0	D0	E0	F0	G0
	Chemi	5%	24 h	A0	B0	C0	D0	E0	F0	G0
Hexaquart plus	B. Braun	1%	24 h	A0	B0	C0	D0	E0	F0	G0
		2,5%	24 h	A0	B0	C0	D0	E0	F0	G0
Miscellaneous chemicals										
EDTA	C ₁₀ H ₁₆ N ₂ O ₈	10%	24 h	A0	B0	C0	D0	E0	F0	G0
Glycerol			24 h	A0	B0	C0	D0	E0	F0	G0
Hydrogen peroxide	H ₂ O ₂	30%	1 h	A0	B0	C0	D0	E0	F0	G0
			24 h	A0	B0	C0	D0	E0	F0	G0
Olive oil			24 h	A0	B0	C0	D0	E0	F0	G0
Phenol	C ₆ H ₆ O	5%	2 min	A0	B0	C0	D0	E0	F0	G0
			1 h	A0	B1	C0	D0	E0	F0	G0
			24 h	A0	B1	C0	D0	E0	F0	G0
Sodium hypochlorite	NaOCl	12%	1 h	A0	B0	C0	D0	E0	F0	G0
			24 h	A0	B0	C0	D0	E0	F0	G0
Brake fluid	APE	Cons	1 h	A0	B0	C0	D0	E0	F0	G0
Super DOT 4	Components	AB	24 h	A0	B0	C1	D1	E5	F0	G0
Hydraulic fluid		Cons	1 h	A0	B0	C0	D0	E0	F0	G0
DET 26			24 h	A0	B0	C0	D0	E0	F0	G0
2-Ethylhexyl acrylate	C ₁₁ H ₂₀ O ₂		1 h	A0	B0	C0	D0	E0	F0	G0
			24 h	A0	B0	C0	D1	E0	F0	G0
Methylmethacrylate	C ₅ H ₈ O ₂		1 h	A0	B1	C0	D1	E0	F0	G0
			24 h	A0	B1	C0	D1	E0	F0	G0

*The swelling disappears after 1-2 days.

H* Slight damage to polyurethane surface.

H Total damage to polyurethane surface.