

Table 4.4  
Corrosion Resistance Tests of Electroless Nickel (9% P)

Corrodant	Temp., °F	Aeration	Heat Treated**	Corrosion rate*	
				Mil/yr	µm/yr
Acetaldehyde, waterfree	150	Yes	No	0.02	0.5
Acetone	Room	No	No	0.003	0.076
Acrylonitrile	150	Yes	No	0.016	0.4
Ammonium sulfide	120	Yes	No	0.15	3.8***
Amyl acetate	Room	No	No	0.0019	0.048
Amyl chloride	Room	No	No	0.013	0.33
Beer	45	No	Yes	0.0078	0.2
Benzene	Room	No	No	0.0016	0.04
Benzyl acetate	Room	No	No	Zero	Zero
Benzyl alcohol	Room	No	No	0.0036	0.092
Calcium chloride, 48.5%	Room	No	No	0.02	0.5
Caprolactam monomer	185	Yes	No	0.03	0.76
Caprylic acid	150	Yes	No	0.06	1.52
Carbon disulfide	Room	No	No	Zero	Zero
Carbon tetrachloride	Room	No	No	Zero	Zero
Cresylic acid	120	No	No	0.01	0.25
Detergent, 5%	Room	No	No	0.037	0.94
Ethyl alcohol	Room	No	No	0.0065	0.16
Ethylene glycol	Room	Yes	Yes	0.025	0.64
Formaldehyde, 37%	Room	No	Yes	0.012	0.30
Gasoline	Room	No	No	0.022	0.56
Lactic acid, 80%	Room	Yes	Yes	0.145	3.7***
Methyl alcohol	Room	No	No	Zero	Zero
Naptha	Room	No	No	Zero	Zero
Naphthenic acid	150 max.	Yes	No	0.02	0.5
Oleic acid	Room	No	No	0.012	0.3
Orange juice	Room	No	No	0.013	0.33
Perchloroethylene	150 max.	Yes	No	0.15	3.8***
Petroleum (sour crude)	Room	No	No	Zero	Zero
Polyvinyl acetate	150 max.	Yes	No	0.05	1.27
Rosin size	210	Yes	Yes	Zero	Zero
Sodium carbonate, 10%	Room	No	No	Zero	Zero
Sodium chloride, 3%	Room	No	Yes	0.04	1.0
Sodium hydroxide, 50%	250	No	No	Zero	Zero
Sorbitol	150 max.	Yes	No	0.1	2.5***
Stearic acid	158	No	No	0.02	0.5
Sugar (liquid)	Room	No	No	Zero	Zero
Tall oil (crude)	150	Yes	No	0.04	1.0
Toluol (nitration)	150 max.	Yes	No	0.023	0.58
Trichloroethylene	150	Yes	No	0.02	0.5
Urea, 25 % solution	Room	Yes	No	Zero	Zero
Water, deionized	180	Yes	No	Zero	Zero
Water, distilled	Room	No	No	0.029	0.74

\*Corrosion rates are based on laboratory tests. Commodities listed in the table may vary from batch to batch in trace constituents that could affect corrosion rates. Where large-scale use is contemplated, specific corrosion data should be obtained for the commodity in question.

\*\*Heat treated at 750° C for 1 hour.

\*\*\*Not recommended.