

Chemical Resistance for Plastics and Metal/Alloys

Pumped Fluid	Fluid Concentration, Temperature (°F)	304SS	316SS	EPDM	Viton	Bronze	Cast Iron	Noryl	Acetal	Poly-carb	Rulon
Acetic acid	77° non aerated	A	A	A	A	B	NR	A	NR	NR	
Alkaline cleaner		A	A	A	A		A	A	A 70F	C 70F	
Aluminium sulphate	10% 77°	B	B	A	A	B	NR	A	B 70F	A	A
Ammonium hydroxide	20% 72°	A	A	A	B	NR	A	A	NR	NR	A
Ammonium bicarbonate	10% 104°	B	B	B	NR	NR	C		NR		
Ammonium chloride	10% 68°	A	A	A	A	NR	NR	A	B	A	A
Ammonium nitrate	5%	A	A	A	A	B 70F	C	A	B	A 70F	A
Benzoic acid	100%	A 70F	B 212F	D	A	B 70F	NR	A	B 70F	A	A
Boric acid	unsaturated 140°	B	A	A	A	B 70F	NR	A 130F	A 70F	A	A 70F
Butanol	140°	A	A	A	A	A	NR	A	A 70F	A 70F	A
Calcium acetate	30% 122°	A 70F	A 200F	A	D		C				
Calcium chloride	68°	C	a 70F	A	A	B	C	A	NR	A	A
Calcium hydroxide	Saturated	B 70F	B 200F	A	A	NR	A	A	A 70F	NR	
Calcium nitrate	10%	C	B	A	A	C 70F	B	A	NR	A	A
Calcium phosphate	10% 210°	A 82F	A 212F	A 70F	A70F		C	A			A
Chromic acid	10% 68°	A 165F	A 180F	NR	B	NR	NR	NR	NR	NR	A 160F
Citric acid	5% 150°	B	A	A	A	A	NR	A	B	A	A
Copper sulphate	5% + 140°	A	A	A 70F	A 70F	B 70F	C	A	A	A	A
Deionized (fully desalinated water)	122°	B	A	A	A	C 70F	NR	A	A		A
Denatured ETHYL alcohol	100% 158°	A	A		B	A 70F	A 70F	A	A	A 70F	
Diethylene glycol		A	A	A	A	B 70F	A	A 70F	A 70F	B 70F	
Distilled water	122°	A	A	A	A	A 70F	NR	A	A	A	
Ethylene glycol/dihydroxyethane	40% 158°	A	A	A	A	A 70F	A	A	A 70F	B	
Ethanol	100% 68°	A	A	A	B	A 70F	B	A	A	A 70F	
Formic acid	68°	B	A	A	C	B	NR	A	NR	B	A 160F
Fruit juice	122°	A	A	A	A	A 70F	NR	A 70F	A 70F	A 70F	
Glycerin	50% 212°	A	A	A	A	A 70F	A 140F	A 150F	A 140F	A 125F	A 70F
Heating oil (light)	158°	A	A		A	A	A 70F	NR	A 70F	A 70F	
Hydraulic oil	100% 212°	A	A	NR	A 70F	A 70F	A 70F	C 70F		NR	
hydrochloric acid	20% 77°	D	D	B	A	NR	NR	A	NR	A 125F	A 70F
Hydrogen peroxide	68°	B	A	B	A	C	NR	A	NR	A	A
Isopropyl alcohol		A	A	A	A	A 70F	A	A 185F	A 140F	A 125F	A 70F
Lactic acid	10% 140°	A	A	A	A	A 70F	C 70F	A	B	A 70F	A 160F
Linoleic acid	100% 68°	A	A	NR	A	A	C		B		
Linseed oil	60% 140°	A	A	C 70F	A	A	A	A 70F	A	A	
Maize oil	176°	A70	A	NR	A 140F	B 70F	A	A 70F	A 70F	A 150F	
Maleic acid	50% 122°	A	A	NR	A 70F	C 70F	A	A70F	NR	A	
Methanol	100% 68°	A	A	A	NR	A	A	A	A	A	A
Mineral oil		A	A	NR	A	A	A				
Motor oil	100% 176°	A	A	NR	A	A 70F	A	A 150F	A 160F	A	A
Nitric acid	50% 86°	A	A	NR	B 70F	NR	NR	NR	NR	NR	A
Oxalic acid	1% 68°	B	A	A	A	C	C	A	NR	B	A
Peanut oil	100% 176°	A 70F	A 140F	C 70F	A 70F	A 70F	A 70F	A 70F	A 70F		
Perchloroethylene		B	A	NR	NR	B	A	NR	A 70F	NR	A
Phosphoric acid	20% 68°	D	A	A	A	B	NR	A	B	A	A
Polyethylene glycols	40% 158°	A	A	A	A		A		A 70F		
Polyglycols	194°	A	A	A 70F	A 70F		A 70F	A 70F	A 70F	A 160F	A
Potassium carbonate	10% 140°	B	B	B	A	B 70F	C 70F	A	B	A 70 F	A
Potassium hydrogen carbonate	10% 140°	B	B	A	A		A 70F	A	A	A	A
Potassium permanganate	5% 68°	B	B	A	A	A 70F	A	A	NR	A	A
Potassium sulphate	unsaturated 176°	B	A	A	A	A 70F	A	A 70F	B 70F	A	A
Propylene alcohol	100% 176°	B	B	A	A	B 70F	B 70F	A	A 140F	A 125F	
Rapeseed oil	100% 176°	A 70F	A 140F	A	A		A 70F		A 70F	A 70F	
Salt brine	212°	B70F	A120F	A 70F	A 70F	B	NR	A	A 150F	A 140 F	A
Silicon oil	100%	A 70F	A 140F	A	A	A 70F	A 70F	A	A	A	
Sodium carbonate	140°	A 160F	A	A	A	A 70F	B 70F	A	A	A	A
Sodium chloride solution	212°	A 70F	A 200F	A	A	B	NR	A 200F	A 70F	A 120F	A
Sodium hydroxide	25% 122°	A	B	B	C	C 70F	A	A	C 80F	C 70F	A 70F
Sodium hypochlorite	<20% 77°	C	C	B	A	C 70F	NR	A	NR	B 70F	A
Sodium nitrate	unsaturated 176°	A	A	A	A	B 70F	A 70F	A 130F	A 140F	A 70F	A
Sodium nitrite	saturated 150°	A	A	A	A	A 70F	A 70F	A	A 70F		A
Sodium phosphate Acid	5% 212°	A 70F	A 70F	A	A	B 70F	A 60F	A 70F	A 70F	A 70F	A 70F
Sodium sulphate	10% 140°	A	A	A	A	B	A 70F	A	A	A	A
Soft water	140°	A	A	A	A	A 70F	A 70F	A	A	A	A
Sulfamic acid	10% 70°	NR	A	NR	A		NR	NR	NR		
Sulphuric acid	5% 77°	C	B 125F	A	A	B	A	A	NR	NR	A
Swimming pool water	95°	C	C	B	A	C 70F	NR	B		B	A
Tannic acid	20% 122°	B	A	A	A	B	B 70F	A	NR	C 70F	A
Trichloroethylene	104°	A 70F	A	NR	NR	B 70F	C 70F	NR	A 70F	NR	A
Uric acid	80% 176°	A 70F	A	NA	NA	A 70F	NR		A 70F	NR	
Vinegar	140°	A	A	A	A	B 70F	NR	A	A 70F	A	A
Water	212°	A	A	A	A	A	A	A	A	A	A
Water deionized	180°	A 70F	A	A70F	A 70F	C 70F	NR	A	A		A
Water demineralized	70°	A	A	A	A	A		A 70F	A 140F	A	A
Water mine	140°	A	A	A	A	C 70F	NR	A	A 100F	A 120F	A
Water sea	120°	B 70F	A	A 180Fa	A 250f	B 70F	B 70F	A	A	A	A

Plastics

SYMBOLIC RATING	DESCRIPTION OF CHEMICAL ATTACK
A	Excellent, little or no swelling or softening or surface deterioration.
B	Good chemical resistance. Minor chemical attack, swelling or surface deterioration.
C	Limited chemical resistance. Moderate chemical attack. Conditional service.
NR	Severe attack, swelling, softening, or dissolved within minutes to years. Not recommended.
Q	Questionable resistance, doubtful usage.
TEST	Test before using.

Metals and Alloys

SYMBOLIC RATING	DEPTH OF CORROSION
A	≤ 0.002" per year
B	≤ 0.020" per year
C	≤ 0.050" per year
NR	> 0.050" per year
Q	Questionable, probably unsuitable
BLANK	No data