

Chemical Resistance Chart

The list of chemicals is offered as a guide to the chemical resistance properties of the material shown. It should be used as a guide only, as the degree of resistance depends upon such variables as temperature, concentration, pressure conditions, velocity of flow, duration of exposure, aeration, stability of the fluids, etc.

Fluid	Material																		
	Carbon steel	304 SS	316 SS	Alum. Bronze	Bronze	Monel	Hastelloy C	22% Cr Duplex	17-4 PH SS	UPVC	PP	ABS	PTFE	Nylon	Natural rubber	Neoprene	NBR (Nitrile)	EPDM	FKM (Viton)
Acetic acid 10%	D	C	A	B	D	B	A	-	B	A	A	A	A	D	B	D	B	A	B
Acetone (10%)	B	B	B	B	A	A	A	X	A	D	A	D	A	A	B	A	A	A	B
ATP	A	A	A	A	A	A	A	A	A	A	D	D	A	A	B	A	A	D	A
Alums. (10%)	D	D	B	B	C	C	B	B	-	C	A	A	A	A	A	A	A	A	A
amines	A	A	A	D	D	A	A	A	A	D	D	D	A	A	-	-	C	B	D
Ammonia aqueous	A	A	A	D	D	C	B	A	A	-	A	A	A	A	B	-	B	-	B
Aviation Fuel	A	A	A	A	D	D	A	A	A	A	D	D	A	A	D	D	A	D	A
Barytes	A	A	A	A	A	A	A	A	A	D	D	D	A	-	A	A	A	A	A
Biocide	D	D	C	C	D	C	B	-	D	A	B	A	A	D	D	A	D	A	D
Brines	C	B	B	B	B	B	A	A	A	A	A	-	A	A	A	A	A	A	B
Butane gas	A	A	A	D	D	A	A	A	A	D	D	D	A	A	D	A	A	D	A
Calcium Chloride	D	D	C	C	C	A	A	-	D	A	A	A	A	A	A	A	A	A	A
Calcium Hypochlorite (2%)	D	D	C	D	D	D	B	-	D	A	A	A	A	A	D	D	A	A	A
Carbonic Acid	D	B	B	D	D	A	A	B	A	A	A	-	A	A	A	A	A	A	A
Carbon Dioxide (dry)	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Carbon Dioxide (wet)	D	A	A	B	B	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Carbon Disulphide	B	B	B	D	D	C	B	-	B	D	D	D	A	C	D	D	D	D	A
Chlorine gas (moist)	D	D	D	D	D	D	B	-	D	B	D	D	A	D	D	D	B	D	A
Condensate (steam)	A	A	A	C	B	A	A	A	A	D	D	D	A	-	D	D	D	B	D
Copper sulphate (0-100%)	D	B	B	D	D	D	B	-	A	A	A	A	A	A	A	A	A	A	A
Ethane	A	A	A	D	D	A	A	A	A	D	D	D	A	A	D	A	A	D	A
Ethers	B	A	A	A	A	A	B	A	A	-	-	-	A	C	C	D	C	D	D
Ethylene glycol	B	A	A	A	A	A	A	A	A	A	A	A	A	A	C	A	A	A	A
Fatty acids	C	B	B	B	B	A	A	-	A	A	A	-	A	A	-	B	B	D	A
Ferric Chloride (5%)	D	D	D	D	D	D	B	-	D	-	-	D	A	A	A	A	A	A	A
Ferrous sulphate	D	B	B	D	D	B	B	-	B	-	-	A	A	A	A	A	A	A	A
Foam (fire)	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Formaldehyde (hot) (40%)	D	B	B	B	B	B	B	-	B	D	D	A	A	A	-	B	B	A	A
Formaldehyde (cold) (40%)	D	B	B	B	B	B	B	-	B	A	A	A	A	A	A	A	A	A	A
formic acid (0-50%)	D	D	C	C	C	C	A	-	B	A	A	A	A	D	D	A	D	A	A
Freeon (dry)	B	A	A	A	A	A	A	A	A	-	A	-	A	A	D	A	A	C	C
Gas condensate	A	A	A	D	D	A	A	A	A	D	D	D	A	A	D	B	A	D	A
Gas, fuel	A	A	A	D	D	A	A	A	A	D	D	D	A	A	D	B	B	D	-
Gas, inert	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Gas, liquified petroleum	A	B	B	D	D	A	A	A	A	D	D	D	A	A	D	B	A	D	A
Gas, natural	A	A	A	D	D	A	A	A	A	D	D	D	A	A	D	A	A	D	A
Gas, produced	A	A	A	D	D	A	A	A	A	D	D	D	A	A	D	A	B	D	A
Gas, sour	A	A	A	D	D	A	A	A	B	D	D	D	A	A	D	A	B	D	A
Glycols	A	A	A	A	A	B	A	A	-	A	A	C	A	B	A	A	A	A	A
Halon	A	A	A	A	A	A	A	A	A	-	-	-	-	A	A	A	A	-	-
Helium	-	A	A	D	A	-	A	A	A	-	-	-	A	-	A	A	A	-	A
Hydrogen	A	A	A	A	A	A	A	A	A	A	A	A	A	A	B	A	A	A	A
Hydrochloric acid (to 30%)	D	D	D	D	D	D	B	D	D	A	A	A	A	D	A	D	D	A	C
Hvdrofluoric acid (conc.)	D	D	D	B	D	B	B	D	D	A	A	A	A	D	D	D	D	D	C

Key: **A:** Excellent resistance **B:** Fair to good resistance **C:** Poor resistance **D:** Not recommended

Figures shown are for guidance only. Before permanent installation, test the parts under the specific conditions of your application. For actual figures, Reference should be made to the current edition of the appropriate standards where applicable.

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(continued)

Fluid	Material																		
	Carbon steel	304 SS	316 SS	Alum. Bronze	Bronze	Monel	Hastelloy C	22% Cr Duplex	17-4 PH SS	UPVC	PP	ABS	PTFE	Nylon	Natural rubber	Neoprene	NBR (Nitrile)	EPDM	FKM (Viton)
Hydrogen peroxide (dilute)	D	B	B	C	D	B	A	-	B	A	A	A	A	D	B	D	B	A	A
Hydrogen peroxide (conc.)	D	B	B	D	D	B	B	-	B	-	D	D	A	-	B	D	D	B	B
Hydrogen sulphide	C	C	B	C	C	C	B	-	D	A	A	A	A	-	C	B	D	A	A
Kerosene	A	A	A	D	D	A	A	A	A	D	D	D	A	A	D	B	A	D	A
Methane	A	A	A	D	D	A	A	A	A	D	D	D	A	A	D	D	A	D	A
Methyl alcohol (0-100%)	B	B	A	B	B	A	A	-	A	A	A	A	A	A	A	A	A	A	C
Mud, drilling	A	A	A	B	B	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Nitrogen	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Oil, crude (sweet)	B	A	A	D	D	A	A	A	A	D	D	D	A	A	D	B	A	D	A
Oil, crude (sour)	C	A	A	D	D	A	A	A	B	D	D	D	A	-	D	B	A	D	A
Oil, diesel fuel	A	A	A	D	D	A	A	A	A	D	D	D	A	A	D	B	A	D	A
Oil, hydraulic	A	A	A	B	B	A	A	A	A	D	D	D	A	A	D	A	A	C	A
Oil, lubricating	A	A	A	B	B	A	A	A	A	D	D	D	A	A	D	A	A	D	A
Oil, petroleum (refined)	A	A	A	D	D	A	A	A	A	D	D	D	A	A	D	B	A	D	A
Oil, petroleum (sour)	A	A	A	D	D	A	A	A	B	D	D	D	A	-	D	B	A	D	A
Oleic acid	C	B	B	C	C	A	A	-	B	A	A	A	A	A	B	D	D	D	A
Oxygen	A	A	A	D	D	A	A	A	A	D	D	D	A	-	D	A	D	A	A
Potassium carb. (aqueous)	B	B	B	B	B	B	B	-	B	A	A	A	A	A	-	A	A	A	C
Potassium chlor. (0-10%)	D	C	B	C	C	A	A	-	C	A	A	A	A	A	-	A	A	A	A
Propane	A	A	A	D	D	A	A	A	A	D	D	D	A	A	D	A	A	D	A
Sewage	C	B	B	B	C	C	B	B	B	-	-	C	A	-	A	A	A	-	A
Sodium bisulphite (<100%)	D	B	B	B	C	B	B	-	C	A	A	-	A	A	A	A	B	A	B
Sodium chloride	C	B	B	A	A	A	A	-	B	A	A	A	A	A	A	A	A	A	A
Sodium chromate (0-10%)	A	A	A	C	C	A	A	-	A	A	A	A	A	A	A	A	A	A	A
Sodium Hydroxide (<40%)	A	B	A	B	D	A	A	-	A	A	A	A	A	C	C	A	A	A	B
Sodium Hypochlorite (7%)	D	D	C	C	D	C	A	-	C	A	B	A	A	C	C	D	D	B	A
Sodium Sulphite (25%)	B	B	B	D	D	B	B	-	B	A	A	A	A	A	-	A	A	A	A
Steam	B	A	A	C	B	A	A	A	A	D	D	D	A	-	D	D	D	B	D
Sulphur dioxide (wet)	D	C	B	B	B	C	B	-	B	A	A	D	A	-	D	D	D	A	A
Toluene	A	A	A	A	A	A	A	A	A	D	A	D	A	A	D	D	D	D	A
Tributyl phosphate	A	A	A	B	B	A	A	A	-	D	A	-	A	-	B	D	B	A	D
Water, chlorinated	D	D	C	D	D	D	B	-	-	B	B	A	B	-	A	B	D	B	B
Water, demin.	D	A	A	A	A	A	A	A	-	A	A	A	A	A	A	A	A	A	A
Water, potable	B	A	A	A	A	A	A	A	A	A	A	A	A	-	A	A	A	A	A
Water, produced	B	B	B	D	B	A	A	A	A	A	A	A	A	A	B	B	D	B	A
Water, sea (chlorinated)	D	D	C	D	D	D	B	B	D	B	B	A	B	-	A	B	D	B	B
Water, sea (deaerated)	B	B	B	A	A	A	A	B	B	A	A	A	A	A	A	B	A	A	A
Water, sea (raw)	B	C	B	A	A	A	A	B	D	A	A	A	A	A	B	B	A	A	A
Water, sea (polluted)	B	C	B	D	B	A	A	B	D	A	A	A	A	A	A	-	A	-	-
Zinc bromide	D	D	C	D	D	C	A	-	-	A	A	-	A	-	-	A	A	A	A

Key: A: Excellent resistance B: Fair to good resistance C: Poor resistance D: Not recommended

For more detailed information we find web sites such as: www.coleparmer.com useful.

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