CHEMICAL RESISTANCE CHART FOR KNF PUMPS

This chemical resistance chart rates the effect of corrosive chemicals on various materials and is to be used only as a general guide. We assume no responsibility for the use of this information in specific applications. All data refers to the information from the manufacturers of these materials and is only valid under room temperature and concentration (when stated) . Variations in temperature, concentration, mixture of chemicals etc. may affect the chemical resistance of these materials.

There are many different compounds of the standard elastomeres and plastics with differing physical properties. In order to be certain that the materials are resistant with the liquids being pumped we recommend making soak tests.

Rating system

A *resistant*
B *limited*
C *not resistant*
- *no data available*

Abbreviation	**Chemical name**	**Brand name**
Elastomers		
EPDM	Ethylen-Propylen-Dien-Elastomer	
FPM	Fluor-Polymer	Viton®
FFPM	Perflour-Polymer	Simriz®, Kalrez®, Chemraz®
Thermoplastics		
PVDF	Polyvinylidenfluorid	SOLEF®,Kynar®
PTFE TFM	Polytetraflourethylene	Teflon®
PP	Polypropylene	Hostalen®
PPS	Polyphenylensulfide	Ryton®
Steel		
SS	Austenitischer Stahl	EN 1.4435, AISI 316L

Chemical resistance of KNF pumps

MEDIA	FORMULA	PTFE	PVDF	PP	PPS	EPDM	FPM	FFPM	SS
Acetaldehyde	CH3CHO	A	C	B	A	B	C	B	A
Acetic acid 100%	CH3COOH	A	A	A	B	B	C	A	C
Acetic acid 65%	CH3COOH	A	A	A		B	C	A	B
Acetone	CH3COCH3	A	C	A	A	A	C	A	B
Acidity of wine	C4H6O6	A	A	A	-	A	A	A	B
Acrylonitrile	C3H3N	A	B	A	-	C	C	A	-
Alcohol		A	A	A	A	A	B	A	A
Aluminium potassium sulfate	Al2(SO4)3	A	A	A	A	A	A	A	B
Amber acid	C4H6O4	A	-	A	-	A	A	A	-
Ammonia	NH3	A	A	A	A	A	C	A	A
Ammoniumcarbonate	(NH4)2CO3	A	A	A	A	A	C	A	-
Ammoniumchloride	NH4Cl	A	A	A	A	A	A	A	B
Ammoniumfluoride	NH4F	A	A	A	-	A	A	A	B
Ammoniumnitrate	NH4NO3	A	A	A	A	A	B	A	A
Ammoniumphosphate	(NH4)3PO4	A	A	A	-	A	C	A	A
Ammoniumsulfate	(NH4)2SO4	A	A	A	A	A	B	A	B
Ammoniumsulfide		A	A	A	-	A	A	A	-
Amylacetate		A	A	B	A	A	C	A	A
Amylalcohol	C5H11OH	A	A	A	A	A	C	A	A
Aniline	C6H5NH2	A	A	A	A	C	C	A	B
Antimonytrichloride	SbCl3	A	A	A	-	A	C	A	-
Aqua regia	3HCl+HNO3	A	B	C	C	C	C	A	C
Arsenic acid	H3AsO4	A	A	A	-	A	A	A	-
Bariumhydroxide	Ba(OH)2	A	A	A	A	A	A	A	B
Beer		A	A	A	-	A	A	A	A
Benzaldehyde	C6H5CHO	A	A	A	B	B	A	A	B
Benzoic acid	C6H5COOH	A	A	A	-	A	A	A	A
Borax (Sodiumbarate)	NaB4O7	A	A	A	A	A	A	A	A
Boric acid	H3BO3	A	A	A	A	A	A	A	A
Brake fluid (Glycol basis)		A	A	A	-	A	C	-	-
Bromic acid	HBr	A	A	A	-	A	B	A	C
Bromine	Br2	A	A	C	C	C	B	A	C
Bromine water		A	A	C	C	B	B	A	-
Butanol	C4H9OH	A	A	A	A	A	B	A	A
Butter		A	A	A	-	C	A	-	-
Butter acid	C3H7COOH	A	A	A	-	C	A	B	B
Butylacetate	CH3COOC4H9	A	A	B	B	B	C	A	-
Butylene	C4H8	A	A	C	A	C	A	A	-
Butylphenol		A	-	A	-	C	B	A	-
Calciumbisulfate		A	A	A	A	A	A	A	-
Calciumchloride	CaCl2	A	A	A	A	A	A	A	C
Calciumhydroxide	Ca(OH)2	A	B	A	-	A	A	A	B
Calciumhypochlorite	Ca(OCl)2	A	A	A	-	A	B	A	C
Calciumnitrate		A	A	A	A	A	A	A	B
Carbonic acid	H2CO3	A	A	A	A	A	A	A	A
Chlorine (Atomic)	Cl	A	A	C	C	B	A	A	C
Chlorine water		A	A	C	-	A	A	A	C
Chloroaceticacid	C2H3ClO2	A	A	A	-	A	C	A	C
Chlorobenzene	C6H5Cl	A	A	B	A	C	B	A	-
Chlorobromomethane		A	B	D	-	B	B	A	-
ChlProform	CHCl3	A	A	B	C	C	B	B	B
Chromic acide 50%	H2Cr04	A	A	B	B	C	A	A	C
Citric acid	C6H8O7	A	A	A	-	A	A	A	B
Cod-liver oil		A	A	A	A	B	A	A	-
Copperchloride	CuCl2	A	A	A	A	A	A	A	C
Copperfluoride	CuF2	A	A	A	-	A	A	-	-
Coppernitrate	Cu(NO3)2	A	A	A	A	A	A	A	A

Chemical resistance of KNF pumps

MEDIA	FORMULA	PTFE	PVDF	PP	PPS	EPDM	FPM	FFPM	SS
Coppersulfate	CuSO4	A	A	A	A	A	A	A	B
Cottonseed oil		A	A	A	A	B	A	-	A
Cresol	C6H4CH3OH	A	A	A	A	C	A	A	-
Crotonaldehyde	C4H6O	A	A	A	-	A	C	A	-
Crude oil		A	A	B	-	C	A	A	A
Cyclohexane	C6H12	A	A	B	A	C	A	A	-
Cyclohexanol	C6H11OH	A	A	A	A	C	C	A	-
Cyclohexanone	C6H10O	A	A	A	A	C	C	A	-
Developing fluids		A	A	A	-	A	A	-	A
Dextrine (Decane)		A	A	A	A	A	A	A	-
Dibenzylether	(C6H5CH2)2O	A	A	-	-	B	C	A	-
Dibutylphtalate		A	A	A	-	C	A	A	-
Dichlorethylene	C2H2Cl2	A	A	B	C	C	B	A	C
Dichloroaceticacid	C2H2Cl2O2	A	-	A	-	A	C	A	-
Dichlorobenzene	C6H4Cl2	A	A	B	-	C	A	A	-
Dichloromethane	CH2Cl2	A	A	C	C	C	C	A	-
Diesel fuel, oil		A	A	A	-	C	A	A	A
Diethylenglycol	C4H10O3	A	A	A	-	A	A	A	-
Diethylether	(C2H5)2O	A	A	B	A	C	C	A	-
Diisobutylketone	((CH3)2C2H3)2CO	A	A	A	-	A	C	A	-
Dimethylamine	(CH3)2NH	A	B	A	B	A	C	A	-
Dimethylether	CH3OCH3	A	A	-	-	A	C	A	-
Dimethylformamide DMF	(CH3)2NOCH	A	C	A	A	B	C	A	-
Dioxane		A	B	C	A	B	C	A	-
Ethanol	C2H5OH	A	A	A	A	A	C	A	A
Ethylacetate	C4H8O2	A	A	A	A	B	C	A	B
Ethylacrylate	C5H8O2	A	B	-	-	C	C	A	-
Ethylbenzene	C6H5C2H5	A	-	B		C	B	A	B
Ethylchloride	C2H5Cl	A	A	B	A	B	B	A	C
Ethylenchloride	CH3CHCl2	A	A	B	A	B	B	A	C
Ethylendiamine	C2H8N2	A	B	A	A	A	C	A	B
Ethylenechlorohydrine	CH2ClCH2OH	A	A	A	B	B	C	A	C
Ethylenglycol	C2H4(OH)2	A	A	A	A	A	A	A	A
Ethylether	C2H5OC2H5	A	A	B	A	B	C	A	A
Fatty acids		A	A	A	A	C	A	A	B
Ferric III-chloride	FeCl3	A	A	A	A	A	A	A	B
Ferricsulfate	FeSO4	A	A	A	-	A	A	A	A
Fertilizer		A	-	A		A	A	A	-
Fluorosilicacid	H2SiF6	A	-	A	A	A	A	A	-
Formaldehyde	CH2O	A	A	A	A	A	B	B	B
Formamide	HCONH3	A	A	A	A	A	B	A	-
Formic acid	HCOOH	A	A	A	A	B	C	C	B
Freon 11		A	A	C	A	C	B	B	A
Freon 113		A	A	C	A	C	B	B	A
Freon 12		A	A	C	A	B	B	B	A
Freon 22		A	A	C	A	A	C	B	A
Fruit juice		A	A	A	-	A	A	A	A
Fuel oils		A	A	A	-	C	A	A	A
Furfurylalcohol	C5H6O2	A	A	A	A	C	C	A	-
Gasoline		A	A	B	A	C	A	A	A
Glucose		A	A	A	A	A	A	A	A
Glycerin/Glycerol	C3H3(OH)3	A	A	A	A	A	A	A	A
Glycol	C2H4(OH)2	A	A	A	A	A	A	A	A
Glycolic acid	CH2OHCOOH	A	A	A	A	A	A	A	-

Chemical resistance of KNF pumps

MEDIA	FORMULA	PTFE	PVDF	PP	PPS	EPDM	FPM	FFPM	SS
Hydrogen sulfide	H2S	A	A	A	-	A	A	A	B
Heptane	C7H16	A	A	B	A	C	A	A	A
Hexane	C6H14	A	A	A	A	C	A	A	-
Hydraulic oils		A	A	-	A	C	A	A	-
Hydrazinhydrate	N2H4H2O	A	-	A	-	A	C	A	-
Hydrogenchloride 10%	HCl	A	A	A	A	A	A	A	C
Hydrogenchloride 30%	HCl	A	A	A	B	A	C	A	C
Hydrogenperoxide	H2O2	A	A	A	A	A	C	A	A
Hyrdogen fluoride 65%	H2F2	A	A	A	B	B	B	A	C
Isobutylalcohol	(CH3)CHCH2OH	A	A	A	-	A	A	A	-
Isooctane		A	A	A	-	C	A	A	-
Isoproylalcohol	(CH3)2CHOH	A	A	A	A	A	A	A	-
Kerosene		A	A	B	B	C	A	A	A
Lead acetate	Pb(CH3COO)2	A	A	A	-	A	A	A	-
Linssed oil		A	A	A		B	A	A	A
Liqueur		A	A	A	A	A	A	A	A
Magnesiumchloride	MgCL2	A	A	A	A	A	A	A	C
Magnesiumsulfate	MgSO4	A	A	A	-	A	A	A	B
Margarine		A	A	A	-	C	A	A	-
Melasses		A	-	A	-	B	A	-	-
Menthol		A	-	A	-	C	B	-	-
Mercury	Hg	A	A	A	-	A	A	A	B
Mercurychloride	HgCl2	A	A	-	-	A	A	A	-
Methylalcohol	CH3OH	A	A	A	A	A	C	A	A
Methylchloride	CH3Cl	A	A	C	C	C	A	A	C
Methylethylisopropylketone		A	A	A	A	B	C	A	-
Methylethylketone MEK	C4H8O	A	C	A	B	B	C	A	B
Milk		A	A	A	-	B	A	A	A
Mineral oils		A	A	A	-	C	A	A	-
Motor oils		A	A	A	A	C	A	A	-
Naphtalene	C10H8	A	A	A	A	C	A	A	A
Nickelchloride	NiCl2	A	A	A	-	A	A	A	B
Nickelnitrate	Ni(NO3)2	A	A	A	-	A	A	A	B
Nicotine		A	A	-	-	A	A	A	-
Nitric acid 65%	HNO3	A	A	C	C	C	C	A	A
Nitric acid 10%	HNO3	A	A	A	C	B	A	A	A
Nitrobenzene	C6H5NO2	A	A	A	B	C	C	A	-
Nitroglycerine		A	A	-	-	A	A	A	-
Nitromethane	CH3NO2	A	A	-	B	B	C	A	-
Octylalcohol		A	-	A	-	A	A	A	-
Oil vegetable		A	A	A	-	C	A	A	-
Oleic acid		A	A	A	A	C	A	A	B
Olive oil		A	A	A	-	B	A	A	-
Oxalic acid	(COOH)2	A	A	A	-	A	A	A	C

Chemical resistance of KNF pumps

MEDIA	FORMULA	PTFE	PVDF	PP	PPS	EPDM	FPM	FFPM	SS
Paraffins		A	A	A	A	C	A	A	A
Peanut oil		A	A	A	-	B	A	A	-
Perchloric acid 20%	HClO4	A	A	A	A	A	A	A	-
Petroleum		A	A	A	B	C	A	A	A
Phenol (Carbolic acid)	C6H5OH	A	A	A	A	C	B	A	B
Phosphoric acid 80%	H3PO4	A	A	A	A	A	A	A	C
Phosphorusoxychloride	POCl3	A	-	A	-	C	C	A	-
Phosphorustrichloride	PCl3	A	A	A	A	B	A	A	-
Phtalic acid		A	A	A	-	A	A	A	B
Picric acid	C6H2(NO3)3OH	A	A	A	-	B	A	A	B
Potassiumcarbonate	K2CO3	A	A	A	A	A	A	A	A
Potassiumcyanide	KCN	A	A	A	-	A	A	A	B
Potassiumiodide		A	A	A	-	A	A	A	B
Potassiumacetate	KOOCCH3	A	-	A	-	A	A	A	A
Potassiumborate		A	-	A	-	A	A	A	-
Potassiumbromate		A	A	A	-	A	A	A	-
Potassiumbromide	KBr	A	A	A	-	A	A	A	B
Potassiumchlorate	KClO3	A	B	A	-	A	A	A	A
Potassiumchloride	KCl	A	A	A	A	A	A	A	B
Potassiumchromates		A	A	A	-	A	A	A	B
Potassiumdichromate	K2Cr2O7	A	-	A	-	A	A	A	A
Potassiumhydroxide	KOH	A	C	A	A	A	C	A	B
Potassiumnitrate	KNO3	A	A	A	-	A	A	A	B
Potassiumpermanganate	KMnO4	A	A	A	C	A	A	A	B
Potassiumpersulfate	K2S2O8	A	B	A	-	A	A	A	-
Potassiumsulfate	K2SO4	A	A	A	-	A	A	A	B
Propionic acid	C3H6O2	A	A	A	-	C	A	A	-
Propylalcohol	C3H7OH	A	A	A	-	A	B	A	-
Propyleneglycol	C3H8O2	A	A	A	A	A	A	A	-
Prussic acid	HCN	A	A	A	-	A	A	A	B
Pyridine	C6H5N	A	A	B	A	C	C	A	B
Rape oil		A	A	-	A	A	A	A	-
Sea water		A	A	A	A	A	A	A	C
Silicone oils/greases		A	A	A	-	A	A	A	-
Silvernitrate	AgNO3	A	A	A	-	A	A	A	B
Soap solutions		A	A	A	A	A	A	A	A
Soda	Na2CO3	A	A	A	A	A	A	A	A
Sodiumbenzoate	C6H5COONa	A	A	A	-	A	A	A	-
Sodiumbicarbonate		A	A	A	A	A	A	A	A
Sodiumbisulfate		A	A	A	-	A	A	A	B
Sodiumbisulfite		A	A	A	A	A	A	A	B
Sodiumchlorate	NaClO3	A	B	A	-	A	A	A	B
Sodiumchloride	NaCl	A	A	A	A	A	A	A	B
Sodiumchlorite	NaClO2	A	A	A	-	A	A	A	C
Sodiumhydroxide	NaOH	A	C	A	A	A	C	A	B
Sodiumhypochlorite	NaOCl	A	B	B	A	A	A	A	C
Sodiumnitrate	NaNO3	A	A	A	A	A	A	A	A
Sodiumphosphate	Na3PO4	A	A	A	-	A	A	A	A
Sodiumsilikate	Na2SiO3	A	A	A	-	A	A	A	A
Sodiumsulfate	Na2SO4	A	A	A	A	A	A	A	B
Sodiumsulfide	Na2S	A	A	A	A	A	A	A	B
Sodiumthiosulfate	Na2S2O3	A	A	A	A	A	A	A	B
Stearic acid	C17H35COOH	A	A	A	-	A	A	A	B
Sulfochromicacid		A	A	C	-	C	A	A	-
Sulfurdioxide		A	A	A	-	A	A	A	C

Chemical resistance of KNF pumps

MEDIA	FORMULA	PTFE	PVDF	PP	PPS	EPDM	FPM	FFPM	SS
Sulfuric acid 60%	H2SO4	A	A	A	B	A	A	A	C
Sulfuric acid 95%	H2SO4	A	A	B	B	A	A	A	A
Sulfuric acid 10%	H2SO4	A	A	A	A	A	A	A	C
Tallow		A	-	A	-	C	A	A	-
Tannic acid		A	A	A	-	A	A	-	B
Tetrachloroethane	C2H2Cl4	A	A	B	-	C	B	A	-
Tetrachloroethylene	Cl2CCl2	A	A	B	A	C	B	A	-
Tetrachloromethane	CCl4	A	A	C	B	C	A	A	B
Tinchloride	SnCl2	A	A	A	-	A	A	A	-
Tincture of iodine		A	A	A	-	A	A	A	-
Toluene	C6H5CH3	A	A	B	C	C	B	A	A
Tributylphosphate		A	A	A	A	C	B	A	-
Trichloroacetic acid	CCl3COOH	A	A	A	A	B	C	A	C
Trichloroethane	Cl3CCH3	A	A	B	B	C	B	A	C
Trichloroethylene	C2HCl3	A	A	B	C	C	B	B	C
Triethanolamine	N(C2H4OH)3	A	-	A	-	B	C	A	-
Trioctylphosphate		A	A	A	-	B	B	-	-
Turpentine		A	A	C	A	C	A	A	A
Uric acid	CO(NH2)2	A	A	A	-	A	A	A	A
Urine		A	A	A	-	A	A	A	-
Vinegar	CH3COOH	A	A	A	B	A	C	A	A
Vinylacetate	C4H6O2	A	-	A	-	A	A	A	-
Wine/Brandy		A	A	A	-	A	B	A	A
Xylol	C6H4(CH3)2	A	A	C	A	C	B	A	A
Zincchloride	ZnCl2	A	A	A	A	A	A	A	B
Zincsulfate	ZnSO4	A	A	A	-	A	A	A	B