Chemical Resistance Chart

Overview

Use this chemical resistance list to help find the right (chemically resistant) sensor for your application. Materials in this chart are sorted alphabetically and rated by level of resistance to chemical exposure. Many factors, including temperature, concentration and mechanical load, can influence the resistance of materials, so slight changes, or contamination of a liquid can have a significant effect on resistance. For the purpose of this document, we assume standard purity and concentration for listed liquids.

Please remember that chemical resistance is only one factor of many to be considered in operating conditions. It is the user's responsibility to make sure any product is suitable and safe for the application.

Key	
1	Resistant
2	Resistant with some restrictions
3	Resistant with some restrictions
4	Not resistant
	No indication

Material Characteristics (wetted parts)

Material Characteristics (Wetted Parts)					
Material	**Trade Name**	**Description**	**Operating Temp (°C)**	**Applications**	
EPDM Ethylenepropylene-caoutchouc)		EPDM is very suitable for use in hydraulic fluids on phosphate ester basis, for brake fluids on glycol basis as well as hot water and superheated steam. It has good ozone and weathering resistance, but is not resistant to mineral oil products.	-50 to +150	Preferred material for use with brake fluids on glycol basis as well as hot water and superheated steam.	Material for process and measurement cell sealing rings
FFKM Perfluoro caoutchouc	Kalrez	A high-performance elastomer with chemical properties similar to those of PTFE and the elastic properties of FPM. It may not be used in fluoric compounds or elementary fluorine. FFKM is very cost-intensive.	-25 to +300	Due to its high thermal end chemical resistance, perfluorocaoutchouc is mainly used as material for o-rings and molded parts in the chemical industry.	
FPM Fluorocarbon caoutchouc	Viton	This material is very suitable for high temperatures and has good chemical resistance. The top temperature limit for use in water and steam is ca. +60 °C. As a result of its low gas permeability, FPM is suitable for high vacuums. It has good resistance to mineral oils and HFA, HFB and HFD fluids, and is also ozone and weathering resistant.	-25 to +200	FPM is often used when NBR can no longer be used because of, for example, high operating temperatures or aggressive media.	
NBR Acrylonitrile butadienerubber)	Perbunan	NBR has good mechanical properties, a good low temperature characteristic (compound-dependent to -50 °C) and a higher wear resistance than most other elastomers. Its resistance to mineral oils and HFA, HFB and HFC fluids is good. Its ozone and weathering resistance is limited.	-50 to +110	Standard material for seals, wipers and molded parts in general applications.	
PTFE (Polytetra fluorethylene)	Teflon	PTFE has virtually universal chemical and very high thermal resistance. Its sliding and electric properties are very good, with excellent weather and UV resistance. The mechanical properties of PTFE are improved by various fillers. This plastic is degraded in areas with high radiation exposure	-200 to +260	Seal rings, o-rings, flat seals and machined parts in hydraulic and pneumatic applications as well as in the chemical, pharmaceutical and foodstuff industries.	
Aluminum-oxide ceramics Al_2O_3 96 %		Good resistance to most media, e.g. alkalis and acids with concentrations up to 5% at 80°C, solvents, chlorides and hydrocarbons.		Suitable for nearly all standard applications in the process industry.	Material for pressure sensor cells
Aluminum-oxide ceramics Al_2O_3 99.9%		Good resistance to most media used in the process industry, such as alkalis and acids with concentrations up to 10% at 85°C, solvents, chlorides and hydrocarbons.		Suitable for nearly all standard applications in the process industry.	
1.4305 DIN 17440 Stainless steel 303S22	Remanit 4305	Due to the sulphur additive the cutting property is considerably increased; this makes the material especially suitable for the machining of turned parts.		Main applications in the monitoring of hydraulics, lubricants and coolants, compressed air, water (no saltwater) and similar areas.	Material for process connections
1.4404 DIN 17440 High-grade stainless steel 316S11	Remanit 4404	High resistance to intercrystalline corrosion. Good resistance to chlorine-containing media and nonoxidizing acids.		Good resistance to many media, but not for highly corrosive applications, pitting occurs especially with chlorides. Main applications in the chemical, pharmaceutical and food industries.	
1.4539 DIN 17440 High-grade stainless steel 904S13	Remanit 4539	High resistance to intercrystalline corrosion. Good resistance to chloride-containing media and nonoxidizing acids.		This steel is particularly suitable for salt and sea water applications.	

Chemical Resistance Chart

Medium	96% ceramic	FPM	Stainless Steel 1.4305/ 303S22	Stainless Steel 1.4404/ 316S11
Acetaldehyde	1	4		1
Acetamide		3		
Acetic acid	4	4	4	4
Acetic acid, anhydrous		4		
Acetic acid, concentrated	4	4	3	1
Acetic acid, glacial		4	3	2
Acetic acid, max. 10 % / 85 °C	4	4	2	1
Acetic acid anhydride	4	4	2	1
Acetic anhydride		4		
Acetone	1	4	1	1
Acetonitrile		1		
Acetophenone		4		1
Acetyl acetone		4		1
Acetyl chloride		1	3	1
Acetylene	1	1		1
Acetylene tetrabromide		1		
Acetylsalicylic acid			1	1
Acrylic				
Acrylic Acid		4		
Acrylonitrile		3		1
Adipic acid	1	2		1
Aero Lubriplate		1		
Aerosafe 2300		4		
Aerosafe 2300W		4		
Aeroshell 17, Grease		1		
Aeroshell 1AC, Grease		1		
Aeroshell 750		1		
Aeroshell 7A, Grease		1		
Aerozene 50 (50% Hydrazine, 50% UDMH)		4		
Air		1		
Alcohol, denatured	1	1	1	1
Alkazene		2		
Allyl chloride		2		
Aluminum acetate		3	1	1
Aluminum bromide		1		
Aluminum chloride	1	1	4	3
Aluminum fluoride		1		1
Aluminum hydroxide		2		
Aluminum nitrate		1	1	1
Aluminum phosphate		1		
Aluminum salts		1		
Aluminum sulfate	1	1	3	1
Alums (NH3-Cr-K)	1	1		1
Ambrex 33, Mobil		1		
Ambrex 830, Mobil		1		
Amines, mixed (eg. Allyl, Ethyl a.s.o.)		4		1
Aminobenzoic acid		2		
Aminopyridine		4		
Ammonia		4		
Ammonia + Lithium metal solution		4		
Ammonia, anhydrous liquid	1	4	1	1
Ammonia gas, cold	1	4	1	1
Ammonia gas, hot	1	4	1	1
Ammonium bromide, 10 %	1	1		1
Ammonium carbonate	1	3	1	1
Ammonium chloride	1	2	2	2
Ammonium hydroxide	1	2	1	1
Ammonium hydroxide (conc.)	1	2	1	1
Ammonium hydroxide, grade 2		2		
Ammonium nitrate	1	1	1	1
Ammonium nitrite		3		
Ammonium oxalate			4	1
Ammonium perchlorate			2	1
Ammonium persulfate	1	3		2
Ammonium phosphate	1	1		1
Ammonium salt		3		

Chemical Resistance Chart

Medium	96% ceramic	FPM	Stainless Steel 1.4305/ 303S22	Stainless Steel 1.4404/ 316S11
Ammonium sulfide		4		1
Ammonium sulfite			2	1
Ammonium sulphate	1	4	3	1
Amyl acetate		4		1
Amyl alcohol	1	2		1
Amyl borate		1		
Amyl chloride		1		2
Amyl chloronaphtalene		1		
Amyl naphtalene		1		
AN-0-3 Grade M		1		
AN-0-366		1		
AN-0-6		1		
Anderol L-774 (Diester)		1		
Anderol L-826 (Diester)		1		
Anderol L-829 (Diester)		1		
ANG-25 (Diester)		1		
ANG-25 (Glyceral ester		1		
Aniline	1	3	1	1
Aniline dyes	1	2		1
Aniline hydrochloride	1	2	4	4
Aniline oils	1	3	1	1
Animal fats		1		
Animal Oil	1	1		1
Animal Oils		1	1	1
Ansul ether 161, 181		4		
Antimony trioxide		1		
AN-VV-0-366B Hydraulic		1		
Aqua Regia	1	2	4	4
Aqua Regia		2		
Aqua regia	1	2		4
Argon gas	1	1		1
Arochlor 1248		1		
Arochlor 1254		1		
Arochlor 1260		1		
Aromatic fuels		1		
Arsenic acid	4	1	1	1
Arsenic trichloride		4		
Askarel transformer oil		1		
Asphalt	1	1		1
ASTM-Kraftstoff A		1		
ASTM-Kraftstoff B		1		
ASTM-Kraftstoff C		1		
ASTM-Kraftstoff D		1		
ASTM-Oil Nr. 1		1		
ASTM-Oil Nr. 2		1		
ASTM-Oil Nr. 3		1		
ASTM-Oil Nr. 4		1		
ASTM-Oil Nr. 5		1		
ATL-857		1		
Atlantic Dominion F		1		
Atlantic Utro Gear-E		1		
Aurex 903R, Mobil	1	1		
Automatic transmission fluid	1	1		
Automotive brake fluid	1	4	1	1
Barbol B		1		
Barium chloride	2	1	4	4
Barium hydroxide	4	1	1	1
Barium nitrate			1	1
Barium salts	1	1		
Barium sulfide		1		1
Barium sulphate		1		
Bayol 35		1		
Bayol D		1		
Beer	1	1	3	1
Beet sugar liquid	1	1		1
Beet sugar liquors	1	1		

Chemical Resistance Chart				
Medium	96% ceramic	FPM	Stainless Steel 1.4305/ 303S22	Stainless Steel 1.4404/ 316S11
Benzaldehyde	1	4		1
Benzene	1	1	1	1
Benzene chloride		1		
Benzene sulfonic acid	4	1		1
Benzoic acid	4	1	1	1
Benzoic acid benzyl ester	1	1		1
Benzoic acid methyl ester	1	1		
Benzophenone		1		1
Benzotrichloride		1		
Benzoyl chloride		2		
Benzyl alcohol	1	1		1
Benzyl benzoate		1		
Benzyl chloride		1		
Bisulfite lye	4	1		
Black liquor		2		
Black Point 77		1		
Blast furnace gas		1		
Bleaching liquor	4	1	3	2
Borax		1	1	1
Borax solution		1		
Bordeaux mixture		1		
Boric acid 10 %	4	1	2	1
Boron fluids		1		
Boron trichloride		1		
Boron trifluoride		1		
Bray GG-130		1		
Brayco 885 (MIL-L-6085A)		1		
Brayco 910		4		
Brake fluid, Automotive	1	4	1	1
Brine		1		
Brine, Chlorinated, salt		1		
Brine (sea water)	1	1	4	1
Bromine anhydrous	1	1	4	4
Bromine pentafluoride	1	4		
Bromine trifluoride	1	4		
Bromine water	1	1	4	2
Bromo benzene	1	1		1
Bromo ethane	1	1		
Bromochloromethane	1	1		
Bromochlorotrifluor-ethane	1	1		
Bromochlorotrifluor-methane	1	1		
Bunker "C" (Fuel oil)		1		
Bunker oil		1		
Butadiene	1	1		1
Butane	1	1		1
Butane 2,2-Dimethyl		1		
Butane 2,3-Dimethyl		1		
Butanoic acid	4	2	2	2
Butanol	1	1		1
Butter	1	1		1
Butyl acetate	1	4		1
Butyl acetyl ricinolate	1	1		
Butyl acrylate	1	4		
Butyl alcohol	1	1		
Butyl aldehyde		4		
Butyl amine	1	4		1
Butyl carbitole	1	3		
Butyl cellosolve		4		
Butyl cellosolve adipate	1	2		
Butyl glycol	1	4		1
Butyl mercaptan	1	1		1
Butyl oleate	1	1		
Butyl stearate	1	1		1
Butylene	1	1		1
Butyraldehyde	1	4		1
Cadmium cyanide		1		
Calcium acetate		4		
Calcium arsenate		1		

Chemical Resistance Chart				
Medium	96% ceramic	FPM	Stainless Steel 1.4305/ 303S22	Stainless Steel 1.4404/ 316S11
Calcium bisulfide		1		
Calcium bisulfite		1	4	1
Calcium carbonate		1		
Calcium chloride		1	4	2
Calcium cyanide		1		
Calcium hydroxide		1	3	1
Calcium hypochloride	2	1	4	3
Calcium hypochlorite		1		
Calcium nitrate		1		
Calcium phosphate		1		
Calcium salts		1		
Calcium silicate		1		
Calcium sulfate	1	1	4	1
Calcium sulfide		1		
Calcium sulfite		1	4	1
Calcium thiosulphate		1		
Caliche liquors		1		
Camphor		1	1	1
Cane sugar liquors	1	1		
Caprolactam		3		
Caprylaldehyd (Hexanal)		4		
Carbitol (Diethylenglykolmonoethylether)		2		
Carbolic acid		1		1
Carbon bisulfide		1		
Carbon dioxide, dry		2	1	1
Carbon dioxide, wet	1	2	3	1
Carbon disulfide		1		
Carbon monoxide		1		
Carbon tetrachloride		1	1	1
Carbon tetrachloride		1		1
Carbonic acid	1	1	2	1
Carnallite	4			
Castor oil	1	1	1	11
Caustic soda (Sodium hydroxide) concentrate	4	4	4	4
Caustic soda (Sodium hydroxide), max. 10 % / 85 °C	4	4	2	1
Cellosolve		4		
Cellosolve acetate		4		
Celluguard		1		
Cellulube A60		4		
Cellutherm 2505A		1		
Cetane (Hexadecan)		1		
Cheese	1		4	1
Cheese, Soft	1	1	3	1
Chloral	4			
Chlorbenzene	1	1	3	1
Chlordane	1			
Chlorextol		1		
Chloric acid			4	4
Chloric acid	4	1	4	3
Chloric solvent	1	1		
Chlorinated lime			4	2
Chlorinated salt brine		1		
Chlorinated solvent, dry		1		
Chlorinated solvent, wet		1		
Chlorine		1		
Chlorine dioxide	1	3		2
Chlorine, dry	1	1	1	1
Chlorine gas	1	1		2
Chlorine trifluoride	1	4		
Chlorine water	1	1	4	3
Chlorine, wet	1	1	4	4
Chlorkalium	1	1		
Chloroacetic acid		4		
Chloroacetone	1	4		
Chloroaniline		3		

Chemical Resistance Chart				
			Stainless Steel	
Medium	96% ceramic	FPM	1.4305/ 303S22	1.4404/ 316S11
Chlorobromomethane	1	1		1
Chlorobutadiene	1	1		1
Chlorododecane		1		
Chloroform	1	1	1	1
Chlorohydrin	1	1		
Chloronaphtalene	1	1		
Chlorophenol	1	1		
Chlorsulforic acid	1	4	4	3
Chocolate	1	1	1	1
Chrome alum	1	1	4	1
Chrome plating solution		1		
Chrome sulfate			1	1
Chromic acid	4	1	3	3
Chromic oxide	1	1		1
Chromium potassium sulphate		1		
Circo, light process oil		1		
Citric acid	1	1	3	1
City Service 65, 120, 250		1		
City Service Kool Motor Oil Nr. 140		1		
City Service Pacemaker Nr. 2		1		
Clorox	1	1		
Cobalt chloride		1		
Coconut oil/butter	1	1		1
Cod liver oil	1	1		1
Coffee	1	1	3	1
Coke oven gas		1		
Cola essence (Coca-Cola)	2	4		1
Compressed air	1	1	1	1
Convelex 10		1		
Coolanol (Monsanto)		1		
Coolanol 25,45		1		
Coolant	1			
Copper acetate (blue verdigris)		4	1	1
Copper carbonate			1	1
Copper chloride		1	4	4
Copper cyanide		1	4	1
Copper nitrate		1	1	1
Copper salts		1		
Copper sulphate	1	1	3	1
Corn oil	1	1	1	1
Cottonseed Oil	1	1		
Creosote			3	1
Creosote	1	1		1
Creosote (coal tar)		1		
Creosote (wood tar)		1		
Cresol		1	1	1
Cresol (methyl phenol)		1		
Cresylic acid		1		
Crude oil	1	1	1	1
Crude oil (asphalt base)		1		
Cumene		1		
Cupric sulphate	1	1		
Cutting oil	1	1	1	1
Cyanogen chloride		2		
Cyclohexane		1		1
Cyclohexanol		1		1
Cyclohexanone		4		1
Decane		1		
Delco Brake Fluid		4		

`Chemical Resistance Chart				
			Stainless Steel	
Medium	96% ceramic	FPM	1.4305/ 303S22	1.4404/ 316S11
Denatured alcohol	1	1		1
Denatured water		2		
Detergent solutions		1		
Developing fluids		1		1
Dextron		1		
Diacetone alcohol (Diacetol)		4		
Diazinon		4		
Dibencyl ether		4		
Dibencyl sebacate		2		
Dibromoethyl benzene		1		
Dibuthylphthalate		3		1
Dibutyl amine		4		
Dibutyl ether		3		
Dibutyl sebazate		2		
Dichlorbenzol	1	1		
Dichlorethane			4	4
Dichlorobutane	1	1		
Dichloro-isopropyl-ether	1	3		
Dicyclohexylamine		4		
Diesel oil	1	1		1
Diester Lubricant	1	1	1	1
Diester Lubricant (MIL-L-7808)	1	1	1	1
Diester Lubricating oils (syn)	1	1	1	1
Diethyl ether		4		
Diethyl sebacate		2		
Diethyl sulphate		3		
Diethylamine		4		
Diethyl benzene		1		
Diethylen glycol	1	2		1
Dimethyl formamide (DMF)		4		
Dimethyl ether		4		1
Dimethyl phthalate		2		
Dimethyl sulfoxide (DMSO)		3		
Dinitrotoluene		4		
Dioctyl phthalate		2		
Dioctyl sebacate		2		
Dioxalen		4		
Dioxane	1	4		1
Dioxolan		4		
Dipentene		1		
Diphenyl	1	1		1
Diphenyl ether		1		
Diphenyl oxide		1		
Dodecylalkohol	1	1		1
Dow Chemical 50-4, ET588		4		
Dow Chemical ET378		3		
Dow Corning 1208, 4050, 6620, XF-60		1		
Dow Corning 3, 4, 11		1		
Dow Corning 5,33,44,200,220,510,550,705,710		1		
Dow Corning 55		1		
Dow Corning F60-liquid		1		
Dow Corning F61		1		
Dow Guard		1		
Dowtherm 209		4		
Dowtherm A		1		
Dowtherm E		1		
Drinking Water		1		
Dry Cleaning fluids		1		
DTE Light oil		1		

Chemical Resistance Chart

Medium	96% ceramic	FPM	Stainless Steel 1.4305/ 303S22	Stainless Steel 1.4404/ 316S11
ELCO 28 EP		1		
Epichlorohydrine		4		
Epoxy resin	1	4		1
Esam -6- solvent		4		
Esso fuel no. 208		1		
Esso Golden Gasoline		1		
Esso motor oil		1		
Esso transmission Fluid, type A		1		
Esso WS2812 (MIL-L-7808A)		1		
Esso XP90-EP Lubricant		1		
Esstic 42,43		1		
Ethane	1	1		1
Ethanol	1	3		1
Ether	1	4		
Ethyl acetate	1	4		
Ethyl acrylate		4		
Ethyl alcohol			1	1
Ethyl benzene		1		
Ethyl benzoate		1		
Ethyl bromide		1		
Ethyl cellulose		4		
Ethyl chloride			1	1
Ethyl chloride	1	1		
Ethyl chlorocarbonate		1		
Ethyl cyclopentane		1		
Ethyl dibromide		1		
Ethyl dichloride		1		
Ethyl ether			1	1
Ethyl ether		4		
Ethyl formate		3		
Ethyl glycol			3	1
Ethyl mercaptan		2		
Ethyl oxalate		1		
Ethyl silicate		1		
Ethyl solfone		4		
Ethyl tertiarbutylether		3		
Ethylpentachlorbenzol		1		
Ethylen chloride		2		
Ethylene	1	1		1
Ethylene chlorohydrin		1		
Ethylene diamine		4		
Ethylene diamine		1		
Ethylene dibromide		1		
Ethylene ether		4		
Ethylene glycol		1		
Ethylene oxide		4		
Ethylene trichloride		1		
F-60 liquid Dow Corning		1		
F-61 Dow Corning		1		
Fatty acids	3	1	3	1
FC-43		1		
FC-75		2		
Ferric chloride	1	1	4	4
Ferric nitrate	1	1	1	1
Ferric persulphate		1		
Ferric phosphate			1	1
Ferrous sulphate	1	1	2	1
Fixing salt		1		
Fluorolube		2		
Fluorosilic acid		1		
Fluosilic acid	4			
Fluosilicic acid		2		
Formaldehyde	1	4	1	1
Formamide		3	3	1
Formic acid	4	4	4	2
Freon 11 (Freon MF)		2		
Freon 112 (with or without Oil)		1		
Freon 113		2		
Freon 113 + Anilin oil, high/low conc.		2		

Chemical Resistance Chart

Medium	96% ceramic	FPM	Stainless Steel 1.4305/ 303S22	Stainless Steel 1.4404/ 316S11
Freon 114		1		
Freon 114B2		2		
Freon 115		1		
Freon 12		1		
Freon 12 + ASTM-oil no. 2 (50:50)		1		
Freon 142B		2		
Freon 32		4		
Freon C318		2		
Freon MF (F11)		2		
Freon PCA		2		
Freon TF		2		
Fuel oil		1		
Fuel oil acid		1		
Fuel oil #6		1		
Fuel oil, heavy	1	1		1
Fuel oil, light	1	1		1
Fumaric acid		1		
Furaldehyde		4		
Furan		4		
Furfuraldehyde		4		2
Furfuryl alcohol		4		
Furylcarbinol		4		
Fyrquel 90, 100, 150, 220, 300, 500, 550		1		
Fyrquel A60		4		
Gallic acid	4	1	1	1
Gasoline	1	1	1	1
Gelatin, watery	1	1		1
Glaubers salt		1	1	1
Glucose	1	1		1
Glycerin acetate		4		
Glycerine	1	1	1	1
Glycol	1	1		1
Green sulphate liquor		1		
Gulf Endurance-oils		1		
Gulf FR - fluids (emulsions)		1		
Gulf Harmony oil		1		
Gulf high temperature grease		1		
Gulf Legion oil		1		
Gulf Paramon oil		1		
Gulf security oils		1		
Gulfcrown grease		1		
Halothane		1		
Halowax-Oil		1		
Hannifin Lube A		1		
Heavy fuel oil	1	3	1	1
Heavy fuel oil	1	1		1
Heavy water	1	2	1	1
HEF-2 high energy oil		1		
Helium	1	1		1
Heptane	1	1		2
Hexachloroacetone		4		
Hexafluoroethane		2		
Hexane	1	1		1
High viscosity lubricant H2	1	1	1	1
High viscosity lubricant U4	1	1	1	1
HI-LO MS No. 1		4		
Houghto-Safe 271 (water + glycol)		2		
Houghto-Safe 620 (water + glycol)		2		
Hydraulic oil	1	1		
Hydrazine		4		
Hydrazine sulfate			4	4
Hydro carbon tetrachloride	1		1	1
Hydrobromic acid	4	1		
Hydrocarbons (sated)	1	1		1
Hydrocyanic acid	4	1		1
Hydrocyanic acid			1	1
Hydrochloride acid (concentrated)	4	1	4	4
Hydrochloride acid, max. 10 % / 85°	4	1	4	3

Chemical Resistance Chart				
			Stainless Steel	
Medium	96% ceramic	FPM	1.4305/ 303S22	1.4404/ 316S11
Hydrofluoric acid	4	4	4	4
Hydrofluoric acid, grade 2		4		
Hydrofluosilic acid		1	4	3
Hydrogen	1	1		2
Hydrogen bromide	1	1		
Hydrogen chloride gas	1	1	4	3
Hydrogen fluoride		4	4	3
Hydrogen peroxide	4	1		
Hydrogen peroxide, grade 2	4	1		1
Hydrogen peroxide, max. 5 % / 85 °C	4	1	1	
Hydrogen sulfide (cold and dry)	1	4	1	1
Hydrogen sulfide (cold and wet)	1	4	1	1
Hydrogen sulfide (hot and dry)	1	4	3	1
Hydrogen sulfide (hot and wet)	1	4	3	1
Hydrolube (Water/Ethylene glycol)		1		
Hydroquinol		3		
Hydroquinone		2		
Hydroquinone		3		
Hyjet		4		
Hyjet S 4		4		
Hyjet W		4		
Illuminating gas	1	1		1
Industron FF44		1		
Industron FF48		1		
Industron FF53		1		
Industron FF80		1		
Ink			1	1
Iodine	1	1	3	1
Iodine pentafluoride		4		
Iodine tincture			3	2
Isobutyl alcohol	1	1		1
Isobutyl chloride		1		
Isobutyl ether		4		
Isobutyraldehyde		4		
Isobutyric acid		4		
Isododecane	1	1		1
Iso-octane	1	1		1
Isophorone		4		
Isopropanol	1	1		1
Isopropyl acetate		4		
Isopropyl alcohol		1		
Isopropyl benzene	1	1		1
Isopropyl chloride		1		
Isopropyl ether		4		
Isopropyl ether	1	4		1
JP3 (MIL-J-5624)		1		
JP4 (MIL-J-5624)		1		
JP5 (MIL-J-5624)		1		
JP6 (MIL-J-25656)		1		
JP8		1		
JPX (MIL-F-25604		4		
KEL-F-fluids		2		
Kerosene	1	1		
Keystone 87 HX, grease		1		
Lacquer solvents	1	4		1
Lacquers	1	4	1	1
Lactams (amino acid)		4		
Lactic acid, cold	2	1	3	1
Lactic acid, hot	3	1	4	2
Lavender oil	1	1		1
LB 135		1		
Lead acetate				
Lead nitrate				
Lead oxide				
Lehigh X1169		1		
Lehigh X1170		1		

Chemical Resistance Chart				
			Stainless Steel	
Medium	96% ceramic	FPM	1.4305/ 303S22	1.4404/ 316S11
Light fuel oil	1	1		1
Light grease	1	1	1	1
Light oil	1	1		1
Ligroine		1		
Lime bleach				
Lindol (hydraulic fluid, phosphate ester)oil		2		
Linoleic acid	4	2		
Linseed oil	1	1	3	1
Liquimoly		1		
Lithium hydroxide		3		
Lubricant, petroleum	1	1	1	1
Lubricating oils (crude and refined)				
Lubricating oils (SAE 10, 20, 30, 40 and 50)	1	1		1
Lye	4	4		
Lysol			1	1
Magnesium carbonate			1	1
Magnesium chloride	1	1	4	1
Magnesium hydroxide		3		
Magnesium salts		1		
Magnesium sulfate, watery	1	1	4	1
Maleic acid	4	1	1	1
Maleic anhydride		1		1
Malic acid	2	1	1	1
Manganese chloride	1		4	1
Manganese sulfate	1		1	1
Mercaptobenzothiazole (MBT)		1		
Mercuric acetate			1	1
Mercuric chloride		1	4	2
Mercuric cyanide			4	1
Mercuric nitrate			1	1
Mercuric vapor	1	1		1
Mercury	1	1	1	1
Mesityl oxide		4		
Metacrylic acid		3		
Methane	1	1		
Methanol	1	4		
Methyl acetate		4		2
Methyl acetoacetate		4		
Methyl acrylate		4		
Methyl alcohol		4	1	1
Methyl aniline		2		
Methyl benzoate		2		
Methyl bromide		1		
Methyl butyl ketone		4		
Methyl carbonate		1		
Methyl cellosolve		4		
Methyl cellulose		4		
Methyl chloride		1	1	1
Methyl chloroform		2		
Methyl chloroformate		1		
Methyl cyclopentane		1		
Methyl ether		2		
Methyl ethyl ketone (MEK)		4		
Methyl formate		4		
Methyl glycol	1	4		
Methyl isobutyl ketone		4		
Methyl methacrylate		1		
Methyl oleate		1		
Methyl salicylate				
Methyl tertiary butyhlether		3		
Methylene chloride	1	2	1	1
Methylene chloride	1	2		
Methylene dichloride		2		
Milk (3,5 % fat)	1	1	3	1
MIL-L-23699, lubricant		1		
MIL-L-7808, lubricant		1		

Chemical Resistance Chart

Medium	96% ceramic	FPM	Stainless Steel 1.4305/ 303S22	Stainless Steel 1.4404/ 316S11
Mine water			1	1
Mineral oil	1	1		1
MLO-7277		1		
MLO-7557		1		
MLO-8200		1		
MLO-8515		1		
Mobil 24DTE		1		
Mobil Delvac		1		
Mobil HF		1		
Mobil Nivac 20,30		1		
Mobil Therm 600		1		
Mobil Velocite C		1		
Mobilgas WA200ATF		1		
Mobiloil SAE20		1		
Mobilux		1		
Molybdenum disulfide grease		1		
Monobromobenzene	1	1		
Monochloracetic acid	4		4	2
Monochlorobenzene	1	1		
Monomethyl aniline	1	2		
Monomethyl hydrazine		4		
Mononitrotoluene (40%) + Dinitrotoluene (60%)		3		
Monovinyl acetylene		1		
Mopar brake fluid		4		
Mustard	1		1	1
Naphtha		1		
Naphtalene	1	1		1
Natural gas	1	1		1
Neatsfoot-oil		1		
Neon	1	1		1
Neville acid		1		
Nitrous oxide	1	3		1
n-Heptane		1		
n-Hexane		1		
n-Hexene-1		1		
Nickel acetate		4		
Nickel chloride	1	1	4	3
Nickel nitrate	1		4	1
Nickel salts		1		2
Nickel sulphate	1	1	4	1
Niter cake		1		
Nitric acid (concentrated)	4	2	4	4
Nitric acid, max. 10 % / 85 °C	4	1	2	1
Nitro benzene	1	2		1
Nitro ethane		4		
Nitro methane	1	4		
Nitro propane	1	4		
Nitrogen	1	1		1
Nitrogen tetraoxide		4		
Nitrogen trioxide		4		
Nitrous oxide	1	3		1
Novocaine			1	1
Obstpulpe	4		3	1
Octachlortoluol	1	1		
Octadecane		1		
Octane	1	1		
Octyl alcohol		1		
Oils, Animal		1	1	1
Oleic acid	2	2		
Oleum	1	2		
Olive oil	1	1	1	1
Oronite 8200, 8515		1		
Orthochloroethyl-benzene	1	1		
Orthodichlorobenzene		1		

Chemical Resistance Chart

Medium	96% ceramic	FPM	Stainless Steel 1.4305/ 303S22	Stainless Steel 1.4404/ 316S11
Ortho-n-Octan	1	1		
OS45, Typ 111 (basis: silicate esther)		1		
OS45, Type 1V		1		
OS70		1		
Oxalic acid	4	1	4	2
Oxygen, gas	1	3		1
Oxygen, liquid		4		
Ozone	1	1		1
P tertiary butyl caltechol		1		
P3-detergent	4		1	1
Paint thinner-Duco		2		
Palmitic acid	4		1	
Para dichlorobenzene		1		
Parachlorethylane	1			
Paraffin	1	1	1	1
Par-Al-ketone		4		
Parker O-Lube		1		
Paste			1	1
P-Dichlorobenzene		1		
Peanut oil	1	1		1
Penta erythritol		1		
Pentane	1	1		1
Perchloric acid	4	1		
Perchloroethylene		1		1
Petro oil (crude, above 121°C)		2	1	1
Petro oil (crude, below 121°C)		1	1	1
Persil	3		1	1
Petroleum gas (liquid)		1	1	1
Petroleum oil (nature)	1	1	1	1
Phenol	1	1	4	1
Phenyl benzene	1	1		
Phenyl ethyl ether		4		
Phenyl hydracine		1		
Phorone		4		
Phosphor trichloride		1		
Phosphor trichloride acid		1		
Phosphoric Acid, concentrated	4	1	4	3
Phosphoric Acid, max. 10 % / 85	4	1	3	1
Phthalic anhydride		4		
Pickling solution	4	2		1
Pinene	1	1		
Piperidine		4		
Plating solution, chrome		1		
Plating solution, cobalt		1		
Plating solution, copper		1		
Plating solution, gold		1		
Plating solution, indium		1		
Plating solution, iron		1		
Plating solution, lead		1		
Plating solution, nickel		1		
Plating solution, silver		1		
Plating solution, tin		1		
Plating solution, zinc		1		
Polyethylene glycol		3		
Polyigneous acid		4		
Polyvinyl acetate emulsion		3		
Potassium acetate		4	3	1
Potassium bichromate			1	1
Potassium bitartrate			3	2
Potassium bromide			1	1
Potassium carbonate			1	1
Potassium chlorate			1	1
Potassium chloride	1	1	2	1

Chemical Resistance Chart

Medium	96% ceramic	FPM	Stainless Steel 1.4305/ 303S22	Stainless Steel 1.4404/ 316S11
Potassium chromate sulfate			4	2
Potassium cupro cyanide		1		
Potassium cyanate			1	1
Potassium cyanide	1	1	1	1
Potassium dichromate		1		1
Potassium fluoride			3	1
Potassium hydroxide	2	4	1	1
Potassium hypochlorite			4	3
Potassium iodide			3	1
Potassium nitrate	1	1	1	1
Potassium oxalate			1	1
Potassium perchlorate, watery	1	1		1
Potassium permanganate			2	1
Potassium salt		1		
Potassium sulfite		1		
Potassium sulphate	1	1	1	1
Prestone Antifreeze		1		
PRL-High Temperature Hydraulic Oil		1		
Producer gas		1		
Propane	1	1		1
Propion nitrile		1		
Propyl acetate		4		
Propyl alcohol	1	1		1
Propyl nitrate		4		
Propylene	1	1		1
Propylene glycol		1		
Propylene oxide		4		1
Pydraul 10E		1		
Pydraul 115E		1		
Pydraul 230C,312C,540C		1		
Pydraul 29ELT,30E,50E,65E,90E		1		
Pyranol transformer oil	1	1	1	1
Pyridine	1	4		1
Pyrogard 42,43,53,55		1		
Pyrogard C&D (water + petroleum)		1		
Pyroligneous acid		4		
Pyrolube		1		
Pyrroles		4		
Quinine sulfate			1	1
Radiation (gamma)		4		
Rape seed oil		1		
Raspberry essence	1	1		1
Red Line 100 - oil		1		
Red Oil		2		
Resorcinol		1		
RJ-1 (MIL-F-25558)		1		
RP-1 (MIL-R-25576)		1		
Sal ammoniac		1		
Salicylic acid	4	1	1	1
Salt water	1	2	4	1
Salts of hartshorn			1	1
Santosafe 300		1		
Sea water	1	1	4	1
Sewage	1	2	1	1
Shell 3XF Mine Fluid		1		
Shell Alvania grease		1		
Shell Carnea 19 u. 29		1		
Shell Diala		1		
Shell Irus 905		1		
Shell Tellus 27 (petroleum based)		1		
Shell Tellus 33		1		
Shell UMF (5% aromatic)		1		
Silicaester		1		
Silicate acid		2		
Silicon grease	1	1		1

Chemical Resistance Chart

Medium	96% ceramic	FPM	Stainless Steel 1.4305/ 303S22	Stainless Steel 1.4404/ 316S11
Silicon oil		1	1	1
Silver bromide			1	1
Silver chloride			4	4
Silver nitrate		1	1	1
Sinclair Opaline CX-EP Lube		1		
Skydrol 500		4		
Skydrol 7000		2		
Soap	3		1	1
Socony Mobil, Typ A		1		
Socony PD959B Vacuum		1		
Socony vacuum AMV AC781 (grease)		1		
Soda ash		1		
Sodium acetate		4	1	1
Sodium bicarbonate	1	1	1	1
Sodium bisulfite	1	1	4	1
Sodium bisulphate	1	1	4	1
Sodium borate		1		2
Sodium bromide			4	4
Sodium carbonate	1	1		1
Sodium carbonate			1	1
Sodium chlorate	1		4	1
Sodium chloride	1	1	1	1
Sodium chlorite	1		4	4
Sodium cyanide, watery		1		
Sodium cyanite		2		
Sodium fluoride			4	1
Sodium hypochloride	4	1		2
Sodium hypochlorite	2	1	4	3
Sodium metaphospate		1		
Sodium nitrate		1		
Sodium nitrite			1	1
Sodium perborate		1	1	1
Sodium perchlorate			4	1
Sodium peroxide	1	1	4	1
Sodium phosphate (dibasic)		1	1	1
Sodium phosphate (monobasic)		1	1	1
Sodium phosphate (tribasic)		1	1	1
Sodium salicylate			1	1
Sodium salts	1	1		
Sodium silicate		1	1	1
Sodium sulfate	1	1	1	1
Sodium sulfide	1	1	4	2
Sodium sulfite	1	1	4	1
Sodium thiosulfate			1	1
Soft cheese	1	1	3	1
Soft soap	1	1	1	1
Solvasol 1,2,3		1		
Solvasol 73		1		
Solvasol 74		1		
Soybean oil	1	1		1
Spinning bath	1		4	3
Spirits (Firewater)	1	1		1
SR 6 fuel		1		
SR 10 fuel		1		
Standard Oil multilube GX90-EP 1		1		
Stannous chloride	1	1	4	4
Stauffer 7700		1		
Steam (over 149°C)	1	4	1	1
Steam (under149°C)	1	3	1	1
Stearic Acid		2	2	1
Stoddard-Solvent		1		
Styrene monomere	1	2		1
Succinic acid		1		
Sulfolane		2		
Sulfur	1	1	1	1

Chemical Resistance Chart				
			Stainless Steel	
Medium	96% ceramic	FPM	1.4305/ 303S22	1.4404/ 316S11
Sulfur chloride		1	2	1
Sulfur dioxide (dry)		4	4	2
Sulfur dioxide (under pressure)		4	4	2
Sulfur dioxide (wet)		4	4	2
Sulfur hexafluoride		3		
Sulfur molten (121°C)		1	1	1
Sulfuric acid (concentrated)	4	1	4	4
Sulfuric acid, max. 10 % / 85 °C	4	1	4	2
Sulfurous acid	4	1	4	2
Sulfurtrioxide (dry)		1		
Sunoco 3661		1		
Sunoco SAE 10		1		
Sunsafe (fire resistant fluid)		1		
Supershell gasoline	1	1		1
Swanfinch EP - lubricant		1		
Swanfinch Hypoid 90		1		
Tannic acid		1	2	1
Tar bituminous	1	1	1	1
Tartar			4	2
Tartaric acid	4	1	4	2
Terepthalic acid (PTA)		4		
Terpineol	1	1		1
Tertiary butyl alcohol	1	1		1
Tertiary butylmercaptan		1		
Tetrabromoethane		1		
Tetrabutyl titanate		1		
Tetrachloroethane	1	2		2
Tetrachloroethylene		1		
Tetraethyl lead		1		
Tetraethyl lead blend		1		
Tetrahydrofuran		4		
Tetralin		1		
Texaco 3450 - gear oil		1		
Texaco Capella A & AA		1		
Texaco Meropa 220 Nr. 3 (no lead)		1		
Texaco Regal B		1		
Texaco Uni-Temp - grease		1		
Texamatic "A" - gear oil		1		
Texamatic 3401 - fluid		1		
Texamatic 3525 - fluid		1		
Texamatic 3528 - fluid		1		
Texas 1500 - Oil		1		
Thiokol TP-90B		1		
Thiokol TP-95		1		
Tidewater Multigear 140, EP Lube		1		
Tidewater-oil, Beedol		1		
Titanium tetrachloride		1		
Toluene	1	1	1	1
Toluene diisocyanate		4		
Tosyl arginine methyl ester		4		
Transformer oil		1		
Transmission fluid, type A		1		
Triacetin		4		
Triaryl phosphate		1		
Tributoxy ethyl phosphate		1		
Tributyl phosphate		4		

Chemical Resistance Chart				
			Stainless Steel	
Medium	96% ceramic	FPM	1.4305/ 303S22	1.4404/ 316S11
Trichloroacetic acid		3		
Trichloroethane	1	1		1
Trichloroethylene	1	1	1	1
Trichlortrifluorethane		2		
Tricresyl phosphate		2		
Triethanolamine		4		
Trifluorethane	1	1		
Trinitrotoluene	1	2		
Trioctylphosphate		2		
Tripolyphosphate		2		
Trisodium phosphate			1	1
Tung Oil		1		
Turbine oil		1		
Turbine oil ni. 15 (MIL-L-7808A)		1		
Turbine oil Nr. 35		1		
Turpentine	1	1	1	1
Ucon Hydrolube J-4		3		
Ucon-lubricant LB65		3		
Ucon-oil 50-HB-280X		3		
Ucon-oil LB-385 and 400X		3		
UDMH		4		
Univis 40 - hydraulic fluid		1		
Univolt no. 35 (mineral oil)		1		
Unsymmetrical dimethyl hydrazine		4		
Uric acid	2	1		1
Urine	1	1	4	1
Varnish		1		
Vaseline	1	1	1	1
Vegetable oil	1	1	1	1
Versilube F-44, F50 and F55		1		
Vinegar	1	4		1
Vinyl acetate		1		
Vinyl acetylene		4		
VV-H-910		1		
Wagner 21B - brake fluid		4		
Water	1	2	1	1
Water, Denatured		2		
Water, Heavy	1	2	1	1
Wemco C		1		
Whisky	1	1	3	1
Whiskey & wines	1	1	3	1
White liquor		1	1	1
White Oil	1	1		1
White Pine Oil		1		
Wolmar Salt		1		
Wood Oil		1		
Xenon	1	1		1
Xylene	1	1	1	1
Xylidenes, mixed		4		
Yeast, watery	1	1		1
Zeolites		1		
Zinc acetate		4		
Zinc chloride	1	1	4	2
Zinc cyanide			3	1
Zinc salts		1		
Zinc sulphate		1	4	1