



CHEMICAL COMPATIBILITY GUIDE



D E D I C A T E D T O I N N O V A T I O N

CHEMICAL COMPATIBILITY GUIDE

Media	Chemical Formula	Metals													Elastomers				Polymers									
		Aluminum	Brass	Carbon Steel	Ductile Iron / Cast Iron	316/316Ti/321 S.St	17-4PH	Alloy20	Monel	Hastelloy C®	Inconel 625	Titanium	Bronze	304 Stainless Steel	Duplex	Buna N (Nitrile)	EPDM/EPR	Viton	Flexible Graphite	Delrin®	Peek®	PVDF	Teflon® and Reinforced Teflon	PCTFE	UHMWPE®	Vespel®	PFA	KEL-F®
Acetaldehyde	C ₂ H ₄ O	B	B	C	C	A	A	A	A		A	C	A		D	A	D	A	A	B	D	A	A	A		A	A	
Acetamine	HCl	B	B	B	B	B			A				B		A							A						
Acetate Solvents	-	A	A	D	B	A	A		A	A	A	B	B		D	A	D	A	D		A	A					B	
Acetic Acid (aerated)	C ₂ H ₄ O ₂	C	D	D	C	A			A	A	A	C			C		C	A	D	A		A						
Acetic Acid (air free)	C ₂ H ₄ O ₂	C	D	D	C	A	A	A	A	A	A	C			C		D	A	D	A		A						
Acetic Acid (crude)	C ₂ H ₄ O ₂	C	D	D	D	A	A	A	A		A	C			D		D	A	D	A		A						
Acetic Acid Glacial	C ₂ H ₄ O ₂	C	D	D	D	A	B	A	A	A		A	C	C	D	B	C	A	D	A	B	A	A	A			A	
Acetic Acid (pure)	C ₂ H ₄ O ₂	C	D	D	D	A	A	A	A	A	A	C	D		D		D	A	D	A	C	A					A	
Acetic Acid 10%	C ₂ H ₄ O ₂	C	D	D	D	A	A	A	A	A		A	C	C		D	B	D	A	B	A	A	A	A	A	A	A	
Acetic Acid 80%	C ₂ H ₄ O ₂	C	D	D	D	A	A	A	A	A		A	C	D		D	C	D	A	D	A	C	A		B	A	A	
Acetic Acid Vapors	-	B	D			C	C	B	C	A					D			A				A						
Acetic Anhydride	C ₄ H ₆ O ₃	C	D	D	D	B	B	B	B	A		A	C	B		D	C	D	A	D	D	D	A	A	A		A	A
Acetone	C ₃ H ₆ O	A	A	A	A	A	A	A	A	A	A	A	B		D	A	D	A	B	A	D	A	A	A	A	A	A	
Other Ketones	RC(=O)R'	A	A	A	A	A	A	A	A	A					D	B	D		B		D	A				A		
Acetyl Chloride	CH ₃ COCl	C	B	A	C	A	A	A	A	A			D	C		D	D	D		D	B	B	A				A	
Acetylene	C ₂ H ₂	A	C	A	A	A	A	A	A	A		B	C	A		B	A	A	A	A	B	A	A			A		
Acid Fumes	-	B	D	D	D	B		B							C				D		A	A	A			A		
Acrylonitrile	C ₃ H ₃ N	B	A	A	C	A	A	A	A	B		B	A	A		D	D	D	B	D	A	B	A					
Air	-	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A					
Alcohol, Amyl	C ₅ H ₁₁ OH	B	B	B	B	A	B	B	B	A		A	B	A		C	A	B	A	A	A	A	A	A		A	A	
Alcohol, Butyl	C ₄ H ₉ OH	A	B	B	C	A	B	A	A	A		B	B	A		B	B	A	A	A	A	A	A	A		A		
Alcohol, Diacetone	CH ₃ C(O)CH ₂ C(OH)(CH ₃) ₂	A	B	B	B	A	B	A	B	A		A	B	A		D	A	D	A	A	A	B	A	A		A	B	
Alcohol, Ethyl	C ₂ H ₆ O	B	B	B	B	A	B	A	B	A		A	B	A		A	A	A	A	B	A	A	A	A		A	A	
Alcohol, Fatty	-	B	B	B	B	A	B	A		A			B		B			A	A		A	A	A			A		
Alcohol, Isopropyl	C ₃ H ₈ O	B	B	B	B	B	B	A	B	A		B	B	B		C	A	A	A	A	A	A	A	A		A		
Alcohol, Methyl	CH ₄ O	C	B	B	B	A	B	A	A	A		A	B	A		B	A	C	A	B	A	A	A	A		A	B	
Alcohol, Propyl	C ₃ H ₈ O	B	B	A	B	A	B	A	A	A		A	B	A		B	A	A	A	A		A	A	A		A		
Alumunia	-	A	A						A						A	A			A			A						
Aluminum Acetate	Al(C ₂ H ₃ O ₂) ₃	C	C		C	B	B	A	B	B	A		C		D	A	D		D			A						
Aluminum Chloride (dry)	AlCl ₃	C	D	D	D	C	B	D	B	A		C	D	D		B	A	A	A	C	A	A	A	A	A	A	A	
Aluminum Chloride Solution	-	B	D	D	D	D	C	B	B	A		B	D	C		B		A	A	D	A	A	A	A	A			

Ratings: A-Excellent | B-Good | C-Poor | D-Do not use | Blank -No Information

KEL-F® is a registered trademark of 3M Company, NYLATRON® is a registered trademark of Quadrant DSM Engineering Plastic Products, PEEK® is a trademark of VICTREX, TFM™ is a trademark of Dyneon, Teflon® is a registered trademark of DuPont, DELRIN® is a registered trademark of DuPont, VESPEL® is a registered trademark of DuPont.

Media	Chemical Formula	Metals													Elastomers				Polymers									
		Aluminum	Brass	Carbon Steel	Ductile Iron / Cast Iron	316/316Ti/321 S.St	17-4PH	Alloy 20	Monel	Hastelloy C®	Inconel 625	Titanium	Bronze	304 Stainless Steel	Duplex	Buna N (Nitrile)	EPDM/EPR	Viton	Flexible Graphite	Delrin®	Peek®	PVDF	Teflon® and Reinforced Teflon	PCTFE	UHMWPE®	Vespe®	PFA	KEL-F®
Aluminum Fluoride	AlF ₃	C	D	D	D	C	C	B	A	B		C	C	D		A	A	A	A	C		A	A					
Aluminum Hydroxide	AlH ₆ O ₃	B	D	D	D	A	A	A	B	A		B	D	A		A	A	A	A	B		A	A					B
Aluminum Nitrate	AlN ₃ O ₉	D	D	D	D	B	A	A	C	B		A	D	C		B	B	D	A	C		B	A					B
Aluminum Oxalate	C ₆ AlO ₁₂₋₃	B			B	A		A	B	A			D									A						
Aluminum Potassium Sulfate	AlKO ₈ S ₂	B	B	C	D	B	C	B	B	C		A	C	C		B	A	B	A	C			A	A				A
Aluminum Sulfate (Alum)	Al ₂ O ₁₂ S ₃	C	C	D	D	B	B	B	C	B		A	C	B		A	A	A	A	C	A	A	A	A		A	A	A
Amines	R ₃ -xNH _x	C	B	B	C	A	A	A	B	A		B	C	A	A	D	C	D	A	D	A		A					A
Ammonia Alum	AlH ₂₈ NO ₂₀ S ₂	C			C	A	B	A	B	A		B	C	B		B			A	C			A					
Ammonia, Anh. Liquid	NH ₃	A	D	A	B	A	A	A	A	B		B	D	B		B	B	D	A	D	A	B	A	A			A	A
Ammonia Aqueous	H ₅ NO	B	C	C	C	A		A	B	A		B	D	A	A	D	B	C	A		A	A	A	A			A	
Ammonia Gas (hot)	H ₃ N	B	C	B	B	B	A	A	A	A		B	D			A		D		D	A		A					
Ammonia Liquor	-	A	C	A	B	B	A	A	A	B			D	C		D	A	D	A	D			A					
Ammonia Solutions	-	B	D	B	C	A	A	A	A	A		B	D			C	A	D	A	D	A		A					
Ammonium Acetate	C ₂ H ₃ O ₂ NH ₄	A	D	D	D	B	A	A	B	A			D	B		C	A	D	A	D			A					
Ammonium Bicarbonate	NH ₄ HCO ₃	B	B	C	C	B		B	B	B				B		B	A	A		B			A					
Ammonium Bromide 5%	NH ₄ Br	D				B		B	B											B			A					
Ammonium Carbonate	(NH ₄) ₂ CO ₃	B	D	B	B	B	B	B	B	B		A	D	B		C	A	B	A	D	A	A	A					
Ammonium Chloride	NH ₄ Cl	C	C	D	D	C	C	B	B	B		C	D	D		B	A	A	A	C	A	A	A				A	A
Ammonium Hydroxide 28%	NH ₄ OH	C	D	C	B	B	A	A	B	B		A	D	B		B	A	B	A	C	A	A	A			B		A
Ammonium Hydroxide Conc.	NH ₄ OH	C	D	C	B	B	A	A	C	B		A	D	A		C	A	B	A	D	A	B	A			D		
Ammonium Monosulfate	-	D				B	A	B	B	B				A						D			A					
Ammonium Nitrate	(NH ₄)(NO ₃)	B	D	D	B	A	A	A	A	A		A	D	A		A	A	B	A	C	A	A	A					A
Ammonium Oxalate 5%	C ₂ H ₈ N ₂ O ₄	A		A	D	A	A	A	B	A			D	A		D	A			B			A					
Ammonium Persulfate	H ₈ N ₂ O ₈ S ₂	D	D	C	D	A	A	A	D	B		B	C	A		D	B	B	A	D		B	A					
Ammonium Phosphate (mono)	(NH ₄) ₃ PO ₄	B	C	D	D	B	A	A	C	A		A	C	C		C	A	A		B	A		A					
Ammonium Phosphate Di-basic	(NH ₄) ₂ HPO ₄	B	C	D	C	B	B	B	C	A		A	D	B		A	A	A	A	B		A	A					A
Ammonium Phosphate Tri-basic	-	B	C	D	C	B	B	B	C	A		A	C	B		A	A	A		B			A					
Ammonium Sulfate	(NH ₄) ₂ SO ₄	C	D	C	C	C	B	A	B	B		A	D	C		B	A	C	A	C	A	A	A					A
Ammonium Sulfide	(NH ₄) ₂ S	B	D	D	D	B	B	B	B	A			D	C		A	A	D		B			A					
Ammonium Sulfite	(NH ₄) ₂ SO ₃	D	C	C	C	A	B	B	D	A			B	B		B	B	C	D	D			A					A
Amyl Acetate	CH ₃ COO(CH ₂) ₄ CH ₃	A	A	C	C	B	A	A	A	A		A	B	A		D	B	C	A	C	A	A	A	A	A		A	B

Ratings: **A**-Excellent | **B**-Good | **C**-Poor | **D**-Do not use | **Blank**-No Information

KEL-F® is a registered trademark of 3M Company, NYLATRON® is a registered trademark of Quadrant DSM Engineering Plastic Products, PEEK® is a trademark of VICTREX, TFM™ is a trademark of Dyneon, Teflon® is a registered trademark of DuPont, DELRIN® is a registered trademark of DuPont, VESPEL® is a registered trademark of DuPont.

CHEMICAL COMPATIBILITY GUIDE

Media	Chemical Formula	Metals													Elastomers				Polymers									
		Aluminum	Brass	Carbon Steel	Ductile Iron / Cast Iron	316/316Ti/321 S.St	17-4PH	Alloy 20	Monel	Hastelloy C®	Inconel 625	Titanium	Bronze	304 Stainless Steel	Duplex	Buna N (Nitrile)	EPDM/EPR	Viton	Flexible Graphite	Delrin®	Peek®	PVDF	Teflon® and Reinforced Teflon	PCTFE	UHMWPE®	Vespe®	PFA	KEL-F®
Amyl Chloride	C ₅ H ₁₁ Cl	B	B	A	B	B	B	A	A	A		C	A	B		D	D	D	A	A		A	A					A
Aniline	C ₆ H ₇ N	C	D	C	C	A	A	A	B	B		C	C	A		D	B	C	A	B	A	B	A	A	A	D	A	A
Aniline Dyes	-	C	C	C	C	A	A	A	A				C	A		C	B	B		B			A					
Apple Juice	-	B	C	D	D	B		A	A							A	B	A		A	A		A					
Aqua Regia (Strong Acid)	-	D	D	D	D	C	C	B		C		B	D	D		D	D	D	D	D	D	A	A	A	D		A	A
Aromatic Solvents	-	A	A	C	B	A		A	B							D	D	A		A	A	A	A	A			A	
Arsenic Acid	AsH ₃ O ₄	D	C	D	D	B	B	A	A	B		B	C	A		A	B	A	A	D		A	A					
Asphalt Emulsion	-	C	B	B	B	A	A	A	B	A			B	A		D	D	A	A	B	A	A	A					A
Asphalt Liquid	-	C	B	B	B	A	A	A	B	A			A			C	D	A	A	B	A		A					A
Barium Carbonate	CBaO ₃	C	B	B	B	B	A	A	A	A		A	B	B		B	A	A	A	A	A	A	A					A
Barium Chloride	BaCl ₂	D	B	C	C	B	A	A	A	A		A	B	A		A	A	A	A	A	A	A	A					A
Barium Cyanide	Ba(CN) ₂	D	C		C	B	A	B	C	A			C	A		B	A	A		B			A					
Barium Hydrate	BaH ₂ O ₂	D	D			A		A	B										A			A						
Barium Hydroxide	Ba(OH) ₂	D	D	C	C	A	A	A	A	B		B	D	B		A	A	A	A	D	A	A	A					A
Barium Nitrate	Ba(NO ₃) ₂	B	D	A	A	A	B	A		A		A	D	B		A	A	A	A	B			A					A
Barium Sulfate	BaSO ₄	C	B	B	C	B	A	A	A	A		A	C	C		A	A	A	A	B	A	A	A					A
Barium Sulfide	BaS	D	C	C	C	B	A	A	A	A		B	D	C		A	A	A	A	A	A	A	A					
Beer	-	A	B	C	D	A	A	A	A	A	A	A	A	A		B	A	A	A	B	A	A	A	A	A		A	A
Beet Sugar Liquors	-	A	B	B	B	A	A	A	A	A		A	B	A		A	A	A	A	B	A	A	A					A
Benzaldehyde	C ₇ H ₆ O	B	B	B	C	A	A	A	B	A		A	A	C		D	A	D	A	A	A	A	A	A	A		A	A
Benzene (Benzol)	C ₆ H ₆	B	A	B	B	B	A	A	A	A	A	A	A	B		D	D	A	A	A	A	A	A	A	A	A	A	B
Benzoic Acid	C ₇ H ₆ O ₂	B	C	D	D	B	A	A	B	A		A	C	B		C	D	A	A	B	A	A	A	A	A	A	A	A
Beryllium Sulfate	BeO ₄ S	B	B		B	B		A	B							B	B	B		A			A					
Bleaching Powder Wet	-		B	C	C	C		B	A					B		D	B	B		B			A					
Blood (meat juices)	-	B	B		D	A	A	A	A	A	A		B	A		A	B	B		B			A					
Borax (Sodium Borate)	Na ₂ B ₄ O ₇ ·10H ₂ O	C	B	C	A	A	A	A	A	A		B	B	A		A	A	A	A	B		A	A		A			A
Bordeaux Mixture	-					A		A		A						A							A					
Borax Liquors	-	C	A	C	C	B		A	B	A						A	A	A		B			A					
Boric Acid	BH ₃ O ₃	C	C	D	D	C	B	A	A	A	A	A	B	B		B	A	A	A	A	A	A	A	A	A	A	A	A
Brake Fluid	-	B	B	A	B	A	A	A	A	A			B	A		D	B	D		B	A		A					
Brines (saturated)	-	C	B	C	C	B	B	B	B	A			A	B	A	A	A	A		A			A	A	A		A	

Ratings: A-Excellent | B-Good | C-Poor | D-Do not use | Blank -No Information

KEL-F® is a registered trademark of 3M Company, NYLATRON® is a registered trademark of Quadrant DSM Engineering Plastic Products, PEEK® is a trademark of VICTREX, TFM™ is a trademark of Dyneon, Teflon® is a registered trademark of DuPont, DELRIN® is a registered trademark of DuPont, VESPEL® is a registered trademark of DuPont.

Media	Chemical Formula	Metals													Elastomers				Polymers									
		Aluminum	Brass	Carbon Steel	Ductile Iron / Cast Iron	316/316Ti/321 SSt	17-4PH	Alloy 20	Monel	Hastelloy C®	Inconel 625	Titanium	Bronze	304 Stainless Steel	Duplex	Buna N (Nitrile)	EPDM/EPR	Viton	Flexible Graphite	Delrin®	Peek®	PVDF	Teflon® and Reinforced Teflon	PTFE	UHMWPE®	Vespe®	PFA	KEL-F®
Bromine (dry)	Br	D	C	D	D	D	C	B	B	A	A	B	D	D		D	D	A	D	D	D	A	A	A	D		A	A
Bunker Oils (Fuel)	-	A	B	A	B	A		A	A	A			A	A		B	C	A		A			A					
Butadiene	C ₄ H ₆	A	B	B	B	A	A	A	A	B		A	C	A		C	C	A	A	A	A	A	A					A
Butane	C ₄ H ₁₀	A	A	B	C	A	A	A	A	A		A	B	A	A	B	D	A	A	A	A	A	A		A			A
Butter	-	A			D	A		A					D	C		B	A	A		A			A					
Buttermilk	-	A	D	D	D	A		A	D	A			D	A		A	B	A	A	A	A		A					A
Butyl Acetate	C ₆ H ₁₂ O ₂	B	B	B	B	B	A	A	A	A		B	B	C		D	C	D		B	A	A	A	A	A		A	
Butylene	C ₄ H ₈	A	A	A	A	A	A	A	A	A			A	A		D	D	D	A	A	A	A	A		A			C
Butyric Acid	C ₄ H ₈ O ₂	B	B	D	D	B	A	A	A	A		A	C	C		C	C	C	A	B	A	A	A		A			A
Calcium Bisulfite	CaH ₂ O ₆ S ₂	C	D	D	D	B	B	A	D	B		A	C	B		A	D	A	A	D	A	A	A					A
Calcium Carbonate	CaCO ₃	C	D	C	D	B	A	A	A	A		A	C	A		B	B	A	A	A	A	A	A		A			
Calcium Chlorate	Ca(ClO ₃) ₂	B	C	B	C	B		A	A	B		B	B	B		B	B	B	B	C		A	A					
Calcium Chloride	CaCl ₂	D	C	C	C	B	B	A	A	A	A	A	B	C		A	A	A	A	D	A	A	A	A	A	A	A	
Calcium Hydroxide	Ca(OH) ₂	C	D	C	C	B	A	A	A	A	A	A	C	B		A	A	A	A	D	A	A	A			D		A
Calcium Nitrate	Ca(NO ₃) ₂	C	B	B	C	B	B	A	A	B		B	B	C		B	B	A	B	D	A	A	A		A	A		B
Calcium Phosphate	Ca ₃ (PO ₄) ₂	D	C		C	B		B								B	B	B		B			A					
Calcium Silicate	Ca ₂ SiO ₄	D	C		C	B		B		A						B	B	B		A			A					
Calcium Sulfate	CaO ₄ S	C	B	B	C	C	A	A	A	B	A	A	B	B		A	B	A	A	D	A	A	A			A		A
Caliche Liquor	-			B		A		A								B				A			A					
Camphor	C ₁₀ H ₁₆ O	C	C	B	C	B	A	A	C				B			B	B	B		A	A		A		A			
Cane Sugar Liquors	C ₁₂ H ₂₂ O ₁₁	B	B	A	B	A	A	A	A	A			A	A		B	A	B		A		A	A					
Carbonated Beverages	-	B	B	D	B	B	B	B	C	A						B	B	B	A	A			A					
Carbonated Water	-	A	D	B	C	A	B	A	B				B	A		A	A	A	A	A			A					
Carbon Bisulfide	CS ₂	B	C	B	B	B	A	B	B	B			B	A		D	D	A		A			A					
Carbon Dioxide (dry)	CO ₂	B	B	B	B	A	A	A	A	A		A	B	A	A	C	B	B	A	A	A	A	A			A		A
Carbonic Acid	CH ₂ O ₃	A	D	B	D	B	A	A	A	B		B	C	A	B	B	B	A	A	B	A	A	A	A	A	A	A	
Carbon Monoxide	CO	A	A	B	B	A	A	A	A	A			A	A		B	B	B	A	A	A	B	A			A		B
Carbon Tetrachloride (dry)	CCl ₄	C	B	C	C	A	A	A	A	A		A	B	B		D	D	B	B	B	A	A	A	B	A	A	D	
Carbon Tetrachloride (wet)	CCl ₄	D	C	D	D	B	A	B	B	A		A	C	A		D	D	B	B	B		A	A	B	A	A	B	
Casein	-	C	C		C	B		B	C	B						B	B	B		A			A					
Castor Oil	-	A	A	A	A	A	A	A	A	A			B	A		A	B	A	A	A	A		A		A			

Ratings: **A**-Excellent | **B**-Good | **C**-Poor | **D**-Do not use | **Blank** -No Information

KEL-F® is a registered trademark of 3M Company, NYLATRON® is a registered trademark of Quadrant DSM Engineering Plastic Products, PEEK® is a trademark of VICTREX, TFM™ is a trademark of Dyneon, Teflon® is a registered trademark of DuPont, DELRIN® is a registered trademark of DuPont, VESPEL® is a registered trademark of DuPont.

CHEMICAL COMPATIBILITY GUIDE

Media	Chemical Formula	Metals													Elastomers				Polymers									
		Aluminum	Brass	Carbon Steel	Ductile Iron / Cast Iron	316/316Ti/321 S.St	17-4PH	Alloy20	Monel	Hastelloy C®	Inconel 625	Titanium	Bronze	304 Stainless Steel	Duplex	Buna N (Nitrile)	EPDM/EPR	Viton	Flexible Graphite	Delrin®	Peek®	PVDF	Teflon® and Reinforced Teflon	PCTFE	UHMWPE®	Vespel®	PFA	KEL-F®
Caustic Potash	HKO	C	C	B	B	A	A	A	A	A			C			B			A	D	A		A	A	A			
Caustic Soda	HNaO	D	D	B	B	A	A	A	A	A			B	A		C	B	C	A	D	A	A	A	A	A		A	
Cellulose Acetate	-	B	B		B	B			B	B						D	B	D		C			A				A	
China Wood Oil (Tung)	-	A	C	C	C	A	A	A	A	A				A		A	D	A		A			A					
Chlorinated Solvents	-	C	C	C	C	C		A	B	A			A			D	D	C		A	B		A					
Chlorinated Water		D	D	C	D	C	C	A	C	B		A	C	C		B	C	A	B	D	D	A	A	A				A
Chlorine Gas (dry)	Cl2	C	D	C	B	B	B	B	A	A		C	D	B		C	D	B	A	D	D	A	A	A	B	A	A	D
Chlorobenzene (dry)	C6H5Cl	B	B	B	C	A	A	A	A	A		B	B	A		D	D	A	A	C	C	B	A	A		A	A	B
Chloroform (dry)	CHCl3	C	B	C	C	A	A	A	A	B		A	B	A		D	D	B	A	B	A	C	A	A	B	A	A	C
Chlorophyll (dry)	-	B	B		B	B		A	B	A						B	B	B					A					
Chlorosulfonic Acid (dry)	HSO3Cl	C	C	C	B	C	C	B	A	B		A	C	D		D	D	D	A	D	B	D	A	A	D		A	A
Chrome Alum	CrKO8S2	C	C	B	C	A		A	B							B	B	B		B			A					
Chromic Acid<50%	CrH2O4	D	D	D	D	C	B	B	C	C		A	D	B		D	C	C	C	D	D	A	A	A	A	D	A	A
Chromic Acid>50%	CrH2O4	D	D	D	D	C	C	B	D	C		B	D	C		D	C	C	C	D	D	A	A	A	A	D	A	B
Chromium Sulfate	Cr2O12S3	B	C		D	B	B	C	B					B		B	B	B		C			A					
Cider	-	B			D	A	A	B	A	A			A	A		A	A	A		A			A					
Citric Acid	C6H8O7	C	D	D	D	C	A	A	A	A		A	D	B		B	B	A	A	C	A	A	A	A	A	A	A	A
Citrus Juices	-	C	B	D	D	B	A	A	A	A						A		A		A			A					
Coca Cola Syrup	-					A		A		A				A		B		B		A	A		A					
Coconut Oil	-	B	B	C	C	A	A	A	B	A			B	A		A	A	A		A	A	A	A		A			
Coffee	-	A	A	C	C	A	A	A	B	A		A	A	A		A	A	A		A			A					
Coffee Extracts (hot)	-	A	A	C	C	A		A	A											A			A					
Coke Oven Gas	-	A	C	B	B	A	A	A	B				B			C	D	B		C			A					
Cooking Oil	-	B	B	B	B	A		A	A	A						A	D	A		A	A		A					
Copper Acetate	C4H6CuO4	D	D	C	D	A		A	B	A			C			C	B	D		C	A	A	A	A				
Copper Carbonate	CCuO3	D				A		A	A											A	A	A	A	A				
Copper Cyanide	CCuN	D	D	C	D	A		A	C	A		A	D	B		A	B	B	A	B	A	A	A	A				
Copper Nitrate	Cu(NO3)2	D	D	D	D	B		A	D	B		B	D	A		A	B	A	A	A	A	A	A	A				A
Copper Sulfate	CuO4S	D	D	D	D	B	A	A	D	A		A	D	B		A	A	A	A	D	A	A	A	A		A		A
Corn Oil	-	B	B	B	C	B	A	A	B	A			B	A		A	C	A		A	A		A		A			
Cotton seed Oil	-	B	B	B	C	B	A	A	B	A		A	B	A		A	C	B		B	A	A	A					

Ratings: A-Excellent | B-Good | C-Poor | D-Do not use | Blank -No Information

KEL-F® is a registered trademark of 3M Company, NYLATRON® is a registered trademark of Quadrant DSM Engineering Plastic Products, PEEK® is a trademark of VICTREX, TFM™ is a trademark of Dyneon, Teflon® is a registered trademark of DuPont, DELRIN® is a registered trademark of DuPont, VESPEL® is a registered trademark of DuPont.

Media	Chemical Formula	Metals													Elastomers				Polymers									
		Aluminum	Brass	Carbon Steel	Ductile Iron / Cast Iron	316/316Ti/321 SSt	17-4PH	Alloy 20	Monel	Hastelloy C®	Inconel 625	Titanium	Bronze	304 Stainless Steel	Duplex	Buna N (Nitrile)	EPDM/EPR	Viton	Flexible Graphite	Delrin®	Peek®	PVDF	Teflon® and Reinforced Teflon	PTFE	UHMWPE®	Vespe®	PFA	KEL-F®
Cresol	C ₇ H ₈ O	A	C	A	C	B	A	B	B	B		B	A	A		D	D	D	A	D	D	B	A		A			B
Creosote Oil	-	B	B	B	B	A	A	A	B	A		A	B	A		C	D	A		D	A		A		A			
Cresylic Acid	C ₇ H ₈ O	C	B	C	D	B	A	A	A	A		A	C	A		D	D	B	A	D	A	C	A	A		A		
Crude Oil, sour	-	A	C	C	C	B	A	A	B	A	A		D	B	A	A	D	A		A	A		A			A		
Crude Oil, sweet	-	A	B	A	B	A	A	A	A	A	A		B	A	A	A	D	A		A	A		A			A		
Cupric Nitrate	CuN ₂ O ₆	D				A		A	D											D			A					
Cutting Oils, Water Emulsions	-	A	A	B	B	A	A	A		A			A	A		A		A		A	A		A					
Cyanide Plating Solution	-	D	D		D	B		B	D	A						B	B	B		D			A					
Cyclohexane	C ₆ H ₁₂	A	A	A	B	A	A	A	A	A		A	A	A		C	D	A	A	A	A	A	A	A	A		A	A
Cyclohexanone	C ₆ H ₁₀ O	A	B	B	B	A	A	A	B	B			B	A		D	B	D	A	A	A	C	A		A			B
Detergents, Synthetic	-	B	B	A	B	B	A	A	A	A		A	B	A		B	B	A	A	A	A	A	A	A	A		A	
Dextrin	C ₁₈ H ₃₂ O ₁₆	B	A	B	B	B		A	B				A			B	B	B		A			A					
Dichloroethane	C ₂ H ₄ Cl ₂	B	B		C	A	B	B	B	A		B	D	B		D	D	B	A	B	A	A	A					A
Dichloroethyl Ether	C ₄ H ₈ Cl ₂ O	B	B	A	B	B		B		A			B	A		D	C	D		C	A		A		D			
Diesel Oil Fuels	-	A	A	A	A	A	A	A	A	A		C	A	A	A	A	D	A	A	A	A	B	A	A	A			B
Diethylamine	C ₄ H ₁₁ N	B	C	C	B	A	A	A	B	A		B	A	A		B	C	D	A	B	A	B	A					A
Diethyl Benzene	-					B		B								D	D	A		C			A					
Diethylene Glycol	C ₄ H ₁₀ O ₃	B	B	A	A	A	B	A	B	B		A	A	B		A	A	B	A	B	A		A					
Diethyl Sulfate	(C ₂ H ₅) ₂ SO ₄	A	B	A	B	B		B	B	A			A			C	C	B		A	A		A					
Dimethyl Formamide	C ₃ H ₇ NO	B	B	B	B	A	A	A	A	A			C	A		B	B	D		C	A	A	A			D		A
Dimethyl Phthalate	C ₁₀ H ₁₀ O ₄					A										B	B	D		C	A		A					
Dioxane	C ₄ H ₈ O ₂	B	A	A	B	B	A	B	A	A			A			D	C	D	A	C	A		A					
Dipentane (Pinene)	C ₁₀ H ₁₆	A	A		A	A		A					A	A		B	D	B		A			A					
Disodium Phosphate	HNa ₂ O ₄ P	B	B		B	B		A	B				B			B		B		A			A					
Dowtherm	C ₂₄ H ₂₀ O	A	A	B	B	A	A	A	A	A			A	A		D	D	A	A	A	B		A					
Drilling Mud	-	B	B	A	A	A	A	A	A	A			B	A	A	B	A	A		A			A					
Dry Cleaning Fluids	-	A	C	B	B	A		A	A							B	A	B		D			A					
Drying Oil	-	C	C	C	B	B		B	B							B	A			A			A					
Enamel	-		A														A			B			A					
Epsom Salts	MgO ₄ S	B	A	C	A	B	A	B	B	B		A	B	A		B	A	A	A	B			A					A
Ethane	C ₂ H ₆	A	B	B	A	A	A	B	B	A			A	A	A	A	D	A	A	B	A		A					

Ratings: **A**-Excellent | **B**-Good | **C**-Poor | **D**-Do not use | **Blank** -No Information

KEL-F® is a registered trademark of 3M Company, NYLATRON® is a registered trademark of Quadrant DSM Engineering Plastic Products, PEEK® is a trademark of VICTREX, TFM™ is a trademark of Dyneon, Teflon® is a registered trademark of DuPont, DELRIN® is a registered trademark of DuPont, VESPEL® is a registered trademark of DuPont.

CHEMICAL COMPATIBILITY GUIDE

Media	Chemical Formula	Metals													Elastomers				Polymers									
		Aluminum	Brass	Carbon Steel	Ductile Iron / Cast Iron	316/316Ti/321 S.St	17-4PH	Alloy20	Monel	Hastelloy C®	Inconel 625	Titanium	Bronze	304 Stainless Steel	Duplex	Buna N (Nitrile)	EPDM/EPR	Viton	Flexible Graphite	Delrin®	Peek®	PVDF	Teflon® and Reinforced Teflon	PCTFE	UHMWPE®	Vespel®	PFA	KEL-F®
Ethers	H2O	B	A	B	B	A	A	A	B		A	B	A	A	D	C	C	A	C	A	C	A	A	A		A	C	
Ethyl Acetate	C4H8O2	B	B	B	B	B	A	A	A	B		A	B	B	D	C	D	A	A	A	B	A		A	A		B	
Ethyl Acrylate	C5H8O2	B	B	A	B	A	A	A	A			A	A		D	C	D		B	A		A						
Ethyl Benzene	C8H10	A		A	B	B	B	A	A	A			B	B	C	D	A		A	A		A						
Ethyl Bromide	C2H5Br	B	A		B	B		C	B			B			B	B	B		A			A						
Ethyl Chloride (dry)	C2H5Cl	B	B	B	B	A	A	A	C		A	B	A		C	C	B	A	B	A	B	A					B	
Ethyl Chloride (wet)	C2H5Cl	D	C	C	D	B	B	B	B	C			C	C	C	B	B		B	A		A						
Ethylene Chloride	C2H4Cl	B			C	A	B	A	A	B		B	A	B	D	D	D	A	B		B	A			A		B	
Ethylene Dichloride	C2H4Cl2	B	B	B	A	A	A	A	C		B	B	B		D	D	D	A	C	A	B	A		B	A		B	
Ethylene Glycol	C2H6O2	A	B	B	B	A	A	A	B	A		A	B	B	A	A	A	A	B	A	A	A		A	A		A	
Ethylene Oxide	C2H4O	D	D	B	C	B	B	A	B	A			B	B	D	C	D	A	C	A	A	A					A	
Ethyl Ether	C4H10O	B	B	A	B	A	B	A	A	B		A	B	B	D	D	D		B	A	B	A					B	
Ethyl Silicate	C8H20O4Si	B	B		B	B		B	B	A					B	B	B		A			A						
Ethyl Sulfate	C4H10O4S	A				D		B					D		B	C	A	A	A		A	A					A	
Fatty Acids	R-COOH	C	C	D	D	B	A	A	A	A		A	C	B	B	D	A	A	B	A	A	A	A	A		A	A	
Ferric Hydroxide	FeH3O3	C			D	A		A	A	B					B				A			A						
Ferric Nitrate	FeN3O9	D	D	D	D	B	A	A	D	A		A	D	B	A	A	A	A	D	A	A	A					A	
Ferric Sulfate	Fe2O12S3	D	C	D	D	B	A	A	D	B		A	D	B	A	A	A	A	D	A	A	A			A		A	
Ferrous Ammonium Citrate	C6H(5+4y)Fe(x)N(y)O7	B				B		B											A			A						
Ferrous Chloride	Cl2Fe	D	D	D	D	D	D	D	D	C		A	C	D	A	A	A	A	D	A	C	A					C	
Ferrous Sulfate	FeH2O4S	C	C	D	D	B	A	A	A	B		A	C	B	A	A	A	A	D	A	A	A	A			A	A	
Ferrous Sulfate (Saturated)	-	C	C	C	C	A		A	B	B		A			C	B	B	A	B			A						
Fertilizer Solutions	-	D	C	A	A	A	A	B	B	A			D	A	B	A	A			A		A						
Fish Oils	-	B	B	A	B	A	A	A	A	A			A	A	A	D	A		A			A						
Flue Gases	CO	C	B	A	B	A	A	A	A	A			A		C	D	C		C			A						
Fluoboric Acid	BF4H	C			C	B	B	A	A	A		D	C	B	A	A	A	A	B		B	A			A		B	
Fluorosilicic Acid	F6H2Si	D	B	D	D	B	B	A	A	B		D	B	C	C	C	C	A	B		C	A		A			C	
Formaldehyde (cold)	CH4	B	B	B	B	A	A	A	A	A		B	B	B	B	B	D	A	A	A	A	A	A	A	A	A	A	
Formaldehyde (hot)	CH4	B	B	C	D	C	B	B	B	B				B	B				A	A	A	A	A	A	A	A		
Formic Acid (cold)	CH2O2	B	D	D	D	B	A	A	A	A	B	B	C	C	D	A	B	A	C	B	A	A	A	A	A	A	B	
Formic Acid (hot)	CH2O2	B	D	D	D	B	B	B	B	B	B	C			D		A	A	D	B	A	A	A	A	A	A		

Ratings: A-Excellent | B-Good | C-Poor | D-Do not use | Blank -No Information

KEL-F® is a registered trademark of 3M Company, NYLATRON® is a registered trademark of Quadrant DSM Engineering Plastic Products, PEEK® is a trademark of VICTREX, TFM™ is a trademark of Dyneon, Teflon® is a registered trademark of DuPont, DELRIN® is a registered trademark of DuPont, VESPEL® is a registered trademark of DuPont.

Media	Chemical Formula	Metals														Elastomers				Polymers									
		Aluminum	Brass	Carbon Steel	Ductile Iron / Cast Iron	316/316Ti/321 S.St	17-4PH	Alloy20	Monel	Hastelloy C®	Inconel 625	Titanium	Bronze	304 Stainless Steel	Duplex	Buna N (Nitrile)	EPDM/EPR	Viton	Flexible Graphite	Delrin®	Peek®	PVDF	Teflon® and Reinforced Teflon	PCTFE	UHMWPE®	Vespel®	PFA	KEL-F®	
Freon Gas (dry)	-	B	A	B	B	A	A	A	A	B			A		C	C	C	A	A		A								
Freon 11, MF,112, BF	CCl3F	D	A	B	C	A	A	A	A	A		B	B	A		C	C	C	A	D	D	A	A				A		
Freon 12, 32, 114, 115	CCl2F2	B	A	B	B	A	A	A	B	A		B	B	B		B	B	B	A	B	A	C	A				C		
Freon 21, 31	CHCl2F	B	A	B	C	A	A	A	B	A			B	C		D	D	D	A	A									
Freon 22	CHClF2	D	A	B	C	A	A	A	B	A		B	B	A		D	D	D	A	A	A	A	A				A		
Freon 113, TF	C2Cl3F3	D	A	B	C	A	A	A	B	A		C	B	C		B	D	D	A	A	B		B			A			
Freon (wet)	-	D	B		D	C	B	B	B	B			B			B	B	D	A	B			A						
Fruit Juices	-	B	D	D	D	A	A	A	B	A	A	A	B	A		A	A	A		C	A	A	D	A	A		A	A	
Fuel Oil	-	B	B	A	B	A	A	A	B	A		A	A	A		A	D	A	A	A	A	A	B				A		
Fumaric Acid	C4H4O4							A								B	B	A		A			A						
Furfural	C5H4O2	A	A	A	B	A	A	A	A	A		A	B	A		D	C	D	A	B	A	D	A				D		
Gallic Acid 5%	C7H6O5	B	C	D	D	B	B	B	B	A		B	B	B		B	C	A	B	A	B	A	A				A		
Gas, Manufactured	-	C	B	B	B	B		B	A					A	A	A		A		A	A		A						
Gas, Natural	-	B	B	B	B	A	A	B	A					A	A	A	D	A		A	A		A						
Gas, Odorizers	-	A	A	B	B	B		A	B					A	A	B		A		A			A						
Gasoline (aviation)	-	A	A	A	B	A	A	A	A	A				A		C	D	A	A	A			A		A		A		
Gasoline (leaded)	-	A	A	A	A	A	A	A	B	A		A	A	A		C	D	A	A	A	A	B	A		A		A		
Gasoline (motor)	-	A	A	A	B	A	A	A	B	A						C	D	A	A	A			A		A				
Gasoline (refined)	C12H13N5O6S2	A	B	B	B	A		A	B	A						C	D	A	A	A			A		A				
Gasoline (sour)	-	A	B	B	B	A		A	C	A			B			C	D	A	A	A			A		A				
Gasoline (unleaded)	-	A	A	A	B	A	A	A	B	A		A	A	A		C	D	A	A	A	A	B	A		A		A		
Gelatine	-	A	C	D	D	A	A	A	B	A		A	B	A		A	A	A	A	B		A	A	A	A	A			
Glucose	C6H12O6	A	A	B	B	A	A	A	A	A		A	A	A		A	A	A	A	A	A		A						
Glue	-	A	A	A	B	B	A	A	A	A		A	A	A		A	B	B	A	A			A						
Glycerine (Glycerol)	C3H8O3	A	B	B	B	B	A	A	A	A		A	A	A		C	A	A	A	A	A	A		A	A	A	A		
Glycol Amine	-	C	D	A	B	B	A	A	A	B			C	B		A	D	C	A	C									
Glycol	C2H6O2	B	B	B	B	B	A	A	A	B			A	A	A	B	A	A		C	A	A	A	A	A	A			
Graphite	CH4	B	B		C	B		A	B					A		B	B	B		A			A						
Grease	-	B	B	A	A	A	A	A	A	A			B	A		A	D	A		B			A						
Helium Gas	He	B	B		B	A		A	B	A				A	A	B	B	B		A			A						
Heptane	C7H16	A	A	A	A	A	A	A	A	A		A	A	A		A	D	A	A	A	A	A	A			A	A		

Ratings: **A**-Excellent | **B**-Good | **C**-Poor | **D**-Do not use | **Blank** -No Information

KEL-F® is a registered trademark of 3M Company, NYLATRON® is a registered trademark of Quadrant DSM Engineering Plastic Products, PEEK® is a trademark of VICTREX, TFM™ is a trademark of Dyneon, Teflon® is a registered trademark of DuPont, DELRIN® is a registered trademark of DuPont, VESPEL® is a registered trademark of DuPont.

CHEMICAL COMPATIBILITY GUIDE

Media	Chemical Formula	Metals														Elastomers				Polymers									
		Aluminum	Brass	Carbon Steel	Ductile Iron / Cast Iron	316/316Ti/321 S.St	17-4PH	Alloy20	Monel	Hastelloy C®	Inconel 625	Titanium	Bronze	304 Stainless Steel	Duplex	Buna N (Nitrile)	EPDM/EPR	Viton	Flexible Graphite	Delrin®	Peek®	PVDF	Teflon® and Reinforced Teflon	PCTFE	UHMWPE®	Vespel®	PFA	KEL-F®	
Hexane	C6H14	A	A	A	A	A	A	A	A	A		A	A	A		A	D	A	A	A	A	A						A	
Hexanol, Tertiary		A	A	A	A	A	A	A	A	A			A	A		A	D	B		A			A						
Hydraulic Oil Petr. Base	-	A	B	A	A	A	A	A	A	A			A	A		A	D	A	B	B	A		A		A				
Hydrazine	H4N2	C	D	C	D	B	A	A	B	A			C	A		C	B	C	A	B	D	A	A		A	D	A		
Hydrocyanic Acid	CHN	C	D	D	C	A	B	A	B	A		B	D	B		B	B	A	A	C	D	A	A		A	A	A		
Hydrofluoric Acid 20%	HF	D	D	D	D	D	C	B	A	B		D	C	D		D	D	A	A	D	D	B	B	A	C			B	
Hydrofluoric Acid 50%	HF	D	D	D	D	D	D	C	B	C		D	C	D		D	D	B	A	D	D	B	B	A	C			B	
Hydrofluoric Acid 75%	HF	D	D	D	D	D	D			C		D	C	D		D	D	B	A	D	D	B	A	A	C			B	
Hydrofluoric Acid 100%	HF	D	D	D	D	D	D			B		D	C	D		D	D	B	A	D	D	A	A	A	C			A	
Hydrofluosilicic Acid	H2SiF6	D	B	D	D	C	B	B	B	C		D	B	C		B	B	A	B	B		B	A					B	
Hydrogen Gas (cold)	H	A	A	B	A	A	A	A	A	A		A	A	A	A	B	B	A		A	A	B	A					B	
Hydrogen Gas (hot)	H	C		B		B		A		A						B	B			A			A						
Hydrogen Peroxide Conc.	H2O2	C	D	D	D	B	A	A	C	B	A	B	D	B		D	C	B	C	D	A	B	A	A	A		A	B	
Hydrogen Peroxide, Dilute	H2O2	C	D	D	D	B	A	A	B	A	A	B	D	B		A	B	A	B	D	A	A	A	A	A		A	A	
Hydrogen Sulfide (dry)	H2S	C	C	C	C	C	B	B	B	B		A	D	C		C	A	D	A	C	A	B	A	A	A	A	A	B	
Hydrogen Sulfide (wet)	H2S	C	C	C	D	C	C	B	C	B		B	D	C		C	B	D	A	C	A	B	A	A	A	A	A	B	
Hypo (Sodium Thiosulfate)	Na2S2O3	B	C	D	D	B	A	B	B				B	B		C	A	A		A	A		A					A	
Illuminating Gas	-	A	A	A	A	A		A	A							A	D	A		A			A						
Ink-Newsprint	C11H16O3P+	C	C	D	D	A	B	A	B	A			B	C		A	B	A		B			A						
Iodoform	CHI3	C	C	B	C	A	A	A	C	B		B	C	A		D	A	A		A			C						
Iso-Butane	C4H10	A	A	B	A	A	A	A	A	A			A	A		B	D	A		A	A		A						
Iso-Octane	C8H18	A	A	A	B	A	A	A	A	A			A	A		A	D	A	A	A	A	B	A		A			B	
Isopropyl Acetate	C5H10O2	B		B	C	B	A	A	A	A			B	B		D	D	D	A	D	A		A						
Isopropyl Ether	C6H14O	A	A	A	B	A	A	A	A	A			A	A		C	D	D	A	D	A	B	A		A			A	
JP-4 Fuel	-	A	A	A	A	A	A	A	A	A		A	A	A		A	D	A	A	A	A	A	A					A	
JP-5 Fuel	-	A	A	A	A	A	A	A	A	A		A	A	A		B	D	A	A	A	A	A	A					A	
JP-6 Fuel	-	A	A	A	A	A	A	A	A	A			A	A		A	D	A	A	A	A	A	A					A	
Kerosene	-	B	A	B	B	A	A	A	A	A		A	A	A	A	A	D	A	A	A	A	A	A		A			A	
Ketchup	-	C		C	C	A	A	A	A				C			A		A		A	A		A						
Ketones	CH2O	B	A	A	A	A	A	A	A	A		A	A	A		D	D	D	A	D	A	D	A	A				C	
Laquer (and Solvent)	-	A	C	D	C	B	B	A	A	A		B	A	B		D	D	D	A	D	A		A						

Ratings: A-Excellent | B-Good | C-Poor | D-Do not use | Blank -No Information

KEL-F® is a registered trademark of 3M Company, NYLATRON® is a registered trademark of Quadrant DSM Engineering Plastic Products, PEEK® is a trademark of VICTREX, TFM™ is a trademark of Dyneon, Teflon® is a registered trademark of DuPont, DELRIN® is a registered trademark of DuPont, VESPEL® is a registered trademark of DuPont.

Media	Chemical Formula	Metals														Elastomers				Polymers									
		Aluminum	Brass	Carbon Steel	Ductile Iron / Cast Iron	316/316Ti/321 S.St	17-4PH	Alloy20	Monel	Hastelloy C®	Inconel 625	Titanium	Bronze	304 Stainless Steel	Duplex	Buna N (Nitrile)	EPDM/EPR	Viton	Flexible Graphite	Delrin®	Peek®	PVDF	Teflon® and Reinforced Teflon	PCTFE	UHMWPE®	Vespel®	PFA	KEL-F®	
Lactic Acid Concentrated (cold)	C3H6O3	C	D	D	D	A	A	A	A	B		A	D	B		B	B	A	A	C	A	B	A	A	A	A		B	
Lactic Acid Concentrated (hot)	C3H6O3	C	D	D	D	B	B			B		A	D	B		C	C	B	A	C	A	C	A	A	A	A			
Lactic Acid Dilute (cold)	C3H6O3	B	D	D	D	A	A	A	A	A		A	C	B		B	A	A	A	B	A	B	A		A	A		B	
Lactic Acid Dilute (hot)	C3H6O3	B	D	D	D	A	B			B		A	C	B		C	C	B	A	B	A	C	A		A	A			
Lactose	C12H22O11	B	B		C	B		B	B							B	B	B		A			A						
Lard	-	A	B		A	A	A	A	B	A		A	A	A		B	C	A	A	A		A	A						
Lard Oil	-	B	B	C	C	B		A	B	A			C	A		A	B	A		A	A		A						
Lead Acetate	C4H6O4Pb	D	C	C	D	B	B	B	B	B		A	C	B		A	B	D	A	B	A	A	A			A	A		
Lead Sulfate	O4PbS	D	C	C	D	B	B	B	B	B			B	C		B	B	B	A	A			A						
Lecithin	C46H89NO8P+	B	C	C	C	B		B	B	A			A	A		D	D	B		A			A						
Linoleic Acid	C18H32O2	B	C	C	B	B	B	A	A	A			C	B		B	D	B	A	B	A	A	A						
Linseed Oil	-	A	A	A	A	A	A	A	A	A	A	A	B	A		A	D	A		A	A		A		A				
Lithium Chloride	CLi	C	B	C	B	B	A	A	A	A			B	A		B	B	B	A	A	A	A	A						
Liquid Petroleum Gas (LPG)	C3H7NO2	A	A	A	B	B		B	B	A			A	A		A	D	A		A	A		A						
Lubricating Oil Petroleum Base	C6H6	A	A	A	A	A	A	A	A	A		A	A	A		A	D	A	A	A	A	A	A						
Ludox	O2Si	C	D	A	B	B	A	A	A	A			C			B	B	B		B			A						
Magnesium Bisulfate	HMgO4S+	D	B	B	B	A	A	A	B				A	A		B	B	B	B	A			A						
Magnesium Bisulfade	-	C	D		D	B		B	B							B	B	B		A			A						
Magnesium Carbonate	CMgO3	A	B	B	B	A	A	A	A	B		A	B	B		B	B	B		A	A	A	A						
Magnesium Chloride	Cl2Mg	D	C	C	D	C	D	C	B	A		A	B	D		A	A	A	A	A	B	A	A		A	A		A	
Magnesium Hydroxide	H2MgO2	D	B	B	B	A	A	A	B	A		A	B	B		A	A	A	A	A	A	A	A					A	
Magnesium Hydroxide (hot)	H2MgO2	D	C	B	B	A	A	A	A	B				B		B		A		A			A						
Magnesium Nitrate	MgN2O6	B	C	B	B	A		A	B	A		A	C	B		B	A	B		A	A	A	A						
Magnesium Sulfate	MgO4S	B	B	B	B	A	A	A	B	B		A	C	A		A	A	A	A	A	A	A	A					A	
Maleic Acid	C4H4O4	B	B	C	C	B	B	A	B	B		A	B	A		B	D	A	A	A	A	A	A	A	A	A			
Maleic Anhydride	C4H2O3	B	B		B	B	A	B	B	A				A		D	D	B		D		A	A						
Malic Acid	C4H6O5	B	B	D	D	B	A	B	B	B	A	A	C	A		A	D	A	B	A		A	A		A				
Malt Beverages	-					A		B	A							A	B	A		A			A						
Manganese Carbonate	-	B				B		A								B				A			A						
Manganese Sulfate	MnO4S	B	D	B	D	A	B	A	A	A		A	A	B		B	B	B	A	B	A	A	A					B	
Mayonnaise	-	D		D	D	A	B	A	B	A			D	B		A		A		A		A	A						

Ratings: **A**-Excellent | **B**-Good | **C**-Poor | **D**-Do not use | **Blank**-No Information

KEL-F® is a registered trademark of 3M Company, NYLATRON® is a registered trademark of Quadrant DSM Engineering Plastic Products, PEEK® is a trademark of VICTREX, TFM™ is a trademark of Dyneon, Teflon® is a registered trademark of DuPont, DELRIN® is a registered trademark of DuPont, VESPEL® is a registered trademark of DuPont.

CHEMICAL COMPATIBILITY GUIDE

Media	Chemical Formula	Metals													Elastomers				Polymers									
		Aluminum	Brass	Carbon Steel	Ductile Iron / Cast Iron	316/316Ti/321 S.St	17-4PH	Alloy20	Monel	Hastelloy C®	Inconel 625	Titanium	Bronze	304 Stainless Steel	Duplex	Buna N (Nitrile)	EPDM/EPR	Viton	Flexible Graphite	Delrin®	Peek®	PVDF	Teflon® and Reinforced Teflon	PCTFE	UHMWPE®	Vespel®	PFA	KEL-F®
Meat Juices	-	B	D			A		A							B					A		A	A	A			A	
Melamine Resins	C3H6N6		D		D	C	C	C		A			D	C		B	A	A	C	A			A					
Methanol	CH4O	A	A	A	A	A	A	A	A	A		B	A	A		B	D	B	A	A	A	A	A		A			
Mercuric Chloride	Cl2Hg	D	D	D	D	D	D	C	D	B		A	D	D		A	A	A	C	B	A	A	A	A		A	B	
Mercuric Cyanide	C2HgN2	D	D	D	D	B	C	A	D	A		A	D	C		A	B	A		A	B	A	B				D	
Mercurous Nitrate	HgNO3	D	D	D	D	A	A	A	D	A		A	D	A		B		B	C	A	B	A	A					
Mercury	Hg	C	D	A	A	A	A	A	B	A		A	A	A		A	A	A	C	A	A	A	A	A	A		A	A
Methane	CH4	A	A	A	A	A	A	A	A	A			A	A	A	A	D	A	B	A	A	A	A					
Methyl Acetate	C3H6O2	A	A	B	B	A	A	A	A	A			B	A		D	B	D	A	B	A	C	A				A	
Methyl Acetone	C4H8O	A	A	A	A	A	A	A	A	A			A	A		D	A	D	B	D		D	A					
Methyl Amine	CH5N	B	C	B	B	A	A	A	C	B			D	A		D	B	D		A	A		A					
Methyl Bromide 100%	CH3Br	C	C	C	D	B	B	B	B	B			D	B		B	D	A	A	D	B	A						
Methyl Cellosolve	C3H8O2	B	A	B	B	A	A	A	A	A			A	B		C	B	D	A	D	A	A	A					
Methyl Cellulose	-					A		A		B						D				C			A					
Methyl Chloride	CH3Cl	D	C	A	B	A	A	A	A	A		A	B	A		D	D	B	A	C		A	A			A	B	
Methyl Ethyl Ketone	C4H8O	B	A	A	A	A	A	A	A	A		A	A	A		D	B	D	A	B	B		A		A		B	
Methylene Chloride	CH2Cl2	C	B	B	B	A	A	A	A	A		B	B	B		D	D	C	A	B	A	C	A		B	A	A	
Methyl Formate	C2H4O2	B		C	B	A	A	A	A	A			A	A		D	B	D		A			A					
Methyl Isobutyle Ketone	C6H12O	B			B	B	A	A	A	A		A	A	A		D	C	D	A	C	B	D	A				A	
Milk & Milk Products	-	C	C	C	D	A	A	A	A	A	A	A	B	A		A	A	A	A	A	A	A	A	A		A	A	
Mineral Oils	-	A	A	A	B	A	A	A	A	A		A	A	A		A	D	A		A	A		A		A			
Mineral Spirits	-	A	B	B	B	B	A	B	B	B		B	B	A		A	D	A	A	A	A		A				A	
Mixed Acids (cold)	-	D	D	C	C	B		B	C							D	D	B		D			A					
Molasses, crude	-	B	B	A	A	A	A	A	A	A		A	A	A		A	B	A	A	A	A	C	A	A	A		A	
Molasses, Edible	-	A	B	A	C	A	A	A	A	A			A	A		A	B	A	A	A	A	B	A	A	A		A	
Molybdc Acid	H2MoO4					A		A												A			A					
Monochloro Benzene (dry)	C6H5Cl	B		B	A	A	A	A	A	A			B	B		D	D	B	A	C	B		A					
Morphine	C17H19NO3	B	B	B	B	A		A	B							D	B	D		A			A		A			
Mustard	C4H8Cl2S	B	A	B	B	A		A	A	A		A	B	A		A	A	A	A	C		A	A					
Naptha	-	A	A	A	B	A	A	A	A	A		A	A	A		B	D	A	A	B	A	A	A	A		A	A	
Napthalene	C10H8	A	B	A	B	A	A	A	A	A		A	A	A		D	D	A	A	B	A	A	A		A		A	

Ratings: A-Excellent | B-Good | C-Poor | D-Do not use | Blank -No Information

KEL-F® is a registered trademark of 3M Company, NYLATRON® is a registered trademark of Quadrant DSM Engineering Plastic Products, PEEK® is a trademark of VICTREX, TFM™ is a trademark of Dyneon, Teflon® is a registered trademark of DuPont, DELRIN® is a registered trademark of DuPont, VESPEL® is a registered trademark of DuPont.

Media	Chemical Formula	Metals													Elastomers				Polymers									
		Aluminum	Brass	Carbon Steel	Ductile Iron / Cast Iron	316/316Ti/321 S.St	17-4PH	Alloy20	Monel	Hastelloy C®	Inconel 625	Titanium	Bronze	304 Stainless Steel	Duplex	Buna N (Nitrile)	EPDM/EPR	Viton	Flexible Graphite	Delrin®	Peek®	PVDF	Teflon® and Reinforced Teflon	PCTFE	UHMWPE®	Vespel®	PFA	KEL-F®
Natural Gas, Sour	-	B	A	A	B	A	A	A	B	A			A	A		A	D	A		B	A		A					
Nickel Ammonium Sulfate	H8N2NiO8S2	D	D	D	D	A		A	C			D			A	B	B		C	A		A	A					
Nickel Chloride	Cl2Ni	D	D	D	D	B	B	A	C	A		A	D	D		A	B	A	A	A	A	A	A				A	
Nickel Nitrate	N2NiO6	D	D	D	D	B	A	A	C	B		B	C	B		A	A	A	A	C	A	A	A	A			A	
Nickel Sulfate	NiO4S	D	D	D	D	B	B	A	B	C		B	C	B		A	B	A	A	B	A	A	A				A	
Nicotinic Acid	C6H5NO2	A	A	C	C	A		A	B			B			D	D	B		C			A		B				
Nitric Acid 10%	HNO3	C	D	D	D	B	A	A	D	B		A	D	A		C	B	A	A	D	A	A	A	A	A	D	A	B
Nitric Acid 30%	HNO3	D	D	D	D	B	B	A	D	A		A	D	A		C	C	A	C	D	B	B	A	A	A		A	B
Nitric Acid 80%	HNO3	D	D	D	D	B	C	A	D	B		B	D	A		D	D	B	D	D	D	B	A	A	B		A	B
Nitric Acid 100%	HNO3	B	D	D	D	B	C	A	D	B		B	D	A		D	D	B	D	D	D	B	A	A			A	B
Nitric Acid Anhydrous	-	B	D	D	C	B	D	A	D				D	B		D	D	A	C	D			A					
Nitrobenzene	C6H5NO2	B	D	A	B	A	B	A	B	B		A	B	B		D	C	C	B	B	D	B	A	A	A	A	A	B
Nitrogen	N2	A	A	A	A	A	A	A	A	A		A	A	A	A	A	B	A	A	A	A		A					
Nitrous Acid 10%	HNO2	D	D	D	D	B	B	B	D	C			C	B		C	A	A		B	B	B	A				B	
Nitrous Gases	-	B	D	B	C	A		A	D											B			A		A			
Nitrous Oxide	N2O	B	B	B	C	B	B	B	D	B			C	B		B	A	A	B	A	A	D	A					
Oils&Fats	-	B				A		A								B	D			A		A	A	A		A		
Oils&Animal	-	A	A	A	A	A		A	B	A						A	B	B		A		A	A	A		A		
Oils, Petroleum (refined)	C6H6	A	B	A	B	A	A	A	A	A			C	A	A	A	A	D		B	A		A					
Oils, Petroleum (sour)	C6H6	A	C	B	C	A	A	A	A	A			C	A	A	A	A	D		B			A					
Oils, Water Mixture	-	A	A	B	B	A	A	A		A			A	A		A	D	A		A	A		A					
Olaic Acid	-	B				B		B	A	A							C			D			A					
Oleic Acid	C18H34O2	B	D	C	C	B	A	A	B	B		B	C	A		B	D	C	A	C	A	A	A			A	B	
Oleum	H2O4S	C	C	B	D	B	B	B	C	B		D	D	B		D	C	A	C	D	D	D	A			D	A	
Oleum Spirits	-	D	D		D	B		B	D							C	D	A		D		C	A					
Olive Oil	-	A	B	B	A	A	A	A	A	A		A	A	A		A	B	A	A	A	A		A	A		A		
Oxalic Acid	C2H2O4	C	C	C	D	B	B	B	B	B		A	C	B		C	B	A	A	C	C	A	A	A	A	A	D	
Oxygen	O2	A	A	A	A	A	A	A	A	A		A	A	A	A	B	A	A	A	D	A		A					
Ozone (dry)	O3	A	A	A	A	A	A	A	A	A			A	B		D	A	B	C	C	A	B	A	A	B		A	A
Ozone (wet)	O3	B	B	B	C	A		A	A	A			B			D	B	B		C	A	B	A	A	B		A	
Paints & Solvents	-	A	A	A	A	A		A	A					A		D	D	B		A			A					

Ratings: **A**-Excellent | **B**-Good | **C**-Poor | **D**-Do not use | **Blank** -No Information

KEL-F® is a registered trademark of 3M Company, NYLATRON® is a registered trademark of Quadrant DSM Engineering Plastic Products, PEEK® is a trademark of VICTREX, TFM™ is a trademark of Dyneon, Teflon® is a registered trademark of DuPont, DELRIN® is a registered trademark of DuPont, VESPEL® is a registered trademark of DuPont.

CHEMICAL COMPATIBILITY GUIDE

Media	Chemical Formula	Metals														Elastomers				Polymers									
		Aluminum	Brass	Carbon Steel	Ductile Iron / Cast Iron	316/316Ti/321 S.St	17-4PH	Alloy20	Monel	Hastelloy C®	Inconel 625	Titanium	Bronze	304 Stainless Steel	Duplex	Buna N (Nitrile)	EPDM/EPR	Viton	Flexible Graphite	Delrin®	Peek®	PVDF	Teflon® and Reinforced Teflon	PCTFE	UHMWPE®	Vespel®	PFA	KEL-F®	
Palmitic Acid	C ₁₆ H ₃₂ O ₂	B	C	C	C	B	A	A	A	A			B	B		B	B	A	A	A	A	B	A						
Palm Oil	-	A	B	C	C	B	A	A	A	A		A	C	A		B	D	A		D	A	A	A						
Paper Pulp	-	C	B		B	A		A	B							B	B	B		A									
Paraffin	C _n H _{2n} +2	A	A	B	B	A	A	A	A	A		A	A	A		A	D	A	A	A	A	A	A	A		A			
Paraformaldehyde	CH ₂ O	B	B	B	B	B		B	B	A						B	C			A			A						
Paraldehyde	C ₆ H ₁₂ O ₃					B		B		A						B	D		A	A			A						
Pentane	C ₅ H ₁₂	A	A	B	B	B	A	A	A	B			B	B		A	D	A	A	B	A	A	A						
Perchloroethylene (dry)	C ₂ Cl ₄	B	C	B	B	A	A	A	B	A		A	B	B		D	D	A	A	B	A	A	A					A	
Petrolatum (Vaseline Petr. Jelly)	-	B	B	C	C	B	A	A	A	A			A	A		A	A	A	A	B		A	A						
Phenol	C ₆ H ₆ O	A	D	C	D	A	A	A	A	A	A	B	A	B		D	B	B	A	C	D	B	A	A	A	A	A	B	
Phosphate Ester 10%	-	C	D	A	C	A		A	A	A			C			D	A			A			A		A				
Phosphate Acid 10%	-	C	D	D	D	C	B	B	D							B	B	A	A	D			A		A				
Phosphoric Acid 50% (cold)	H ₃ O ₄ P	D	D	D	D	C	B	B	D	B		B	D	D		B	B	A	A	D	A	B	A	A	A	A	A	A	
Phosphoric Acid 50% (hot)	H ₃ O ₄ P	D	D	D	D	C	C	B	D	B		C	D	D		B	B	A	A	D	A	B	A	A	A	A	A	A	
Phosphoric Acid 85% (cold)	H ₃ O ₄ P	D	D	D	D	C	C	B	D	B		B	D	D		C	B	B	A	D	A	B	A	A	A	A	A	A	
Phosphoric Acid 85% (hot)	H ₃ O ₄ P	D	D	D	D	C	D	B	D	B		C	D	D		C	B		A	D	B	B	A	A	A	A	A	A	
Phosphoric Anhydride	P ₂ O ₅	C		D		A	B	A				D	C	B		D		D	A	D	A	D	A						
Phosphorus Trichloride	PCl ₃	C		B	C	A	A	A	A	B		A		A		D	B	B	A	D			A		A			A	
Phthalic Acid	C ₈ H ₆ O ₄	C	B	D	C	B	A	A	B	A		A	B	B		C	C	A	B	C	A	B	A	A	A	A	A		
Phthalic Anhydride	C ₈ H ₄ O ₃	B	B	D	C	B	A	B	A	A			B	A		C	B	A	A	C	A	A	A						
Picric Acid	C ₆ H ₃ N ₃ O ₇	C	D	D	D	B	B	B	D	B		A	C	B		C	B	A	A	B	A	B	A			A	A		
Pineapple Juice	-	A	C	C	C	A		A	A							A		A		A			A						
Pine Oil	-	B	B	B	B	A	A	A	A	A		A	C	A		A	D	A		D		A	A						
Pitch (Bitumen)	C ₆ H ₆					A		A								C	D			A			A						
Polysulfide	-	C	D		B	B		A	B							B	B	B		C			A						
Polyvinyl Acetate	C ₆ H ₁₂ O ₂	B	B	C	B	B	B	B	B	A			B	A			B			A	A		A						
Polyvinyl Chloride	C ₂ H ₃ Cl	B	D		B	B		B	B								B			A			A						
Potassium Bicarbonate	CHKO ₃	C		A	D	A	B	A	B	B		A	C	B		B	A	A	A	B	A	B	A		D		A		
Potassium Bichromate	Cr ₂ K ₂ O ₇	B	B	B		A		A	A							B		B		B	C		A		A				
Potassium Bisulfate	HKO ₄ S	B		C	C	A		A	C				C			B	B	A		A			A						
Potassium Bisulfite	HKO ₄ S	C	C	D	D	B		B	D							A	B	A		A			A						

Ratings: A-Excellent | B-Good | C-Poor | D-Do not use | Blank -No Information

KEL-F® is a registered trademark of 3M Company, NYLATRON® is a registered trademark of Quadrant DSM Engineering Plastic Products, PEEK® is a trademark of VICTREX, TFM™ is a trademark of Dyneon, Teflon® is a registered trademark of DuPont, DELRIN® is a registered trademark of DuPont, VESPEL® is a registered trademark of DuPont.

Media	Chemical Formula	Metals														Elastomers				Polymers									
		Aluminum	Brass	Carbon Steel	Ductile Iron / Cast Iron	316/316Ti/321 S.St	17-4PH	Alloy20	Monel	Hastelloy C®	Inconel 625	Titanium	Bronze	304 Stainless Steel	Duplex	Buna N (Nitrile)	EPDM/EPR	Viton	Flexible Graphite	Delrin®	Peek®	PVDF	Teflon® and Reinforced Teflon	PCTFE	UHMWPE®	Vespel®	PFA	KEL-F®	
Potassium Bromide	BrK	C	C	C	D	A	B	B	B	B		A	C	B		A	B	A	A	A	A	A					A		
Potassium Carbonate	CK2O3	C	B	B	B	A	A	A	A	A		A	C	B		A	B	A	A	B	A				D				
Potassium Chlorate	ClKO3	B	B	B	B	A	A	A	A	A		A	C	B		A	B	A	B	B	A	A	A				A		
Potassium Chloride	KCl	D	C	C	B	B	B	A	B	A		A	C	B		A	A	A	A	A	A	A		A			A		
Potassium Chromate	CrK2O4	B	B	B	B	B	A	A	A	A			A	B		B	B	A	A	C		B	A						
Potassium Cyanide	KCN	D	D	B	B	B	A	A	A	A		A	D	B		A	A	A	A	C		A	A		A		A		
Potassium Dichromate	Cr2K2O7	B	D	C	C	B	A	A	A	B		A	C	B		A	B	A	B	B	A	A	A			D	A		
Potassium Ferricyanide	C6FeK3N6	C	D	C	C	A	B	A	A	B		A	D	B		A	B	A	A	C	A	B	A				B		
Potassium Ferrocyanide	C6FeK4N6+4	C	C	C	C	B	A	A	A	B		A	C	B		A	A	A	A	A	A	A	A				A		
Potassium Hydroxide Dilute (cold)	HKO	D	D	B	D	B	A	A	A	A	B	C	D	B		A	A	D	B	C	A	A	A			D	B		
Potassium Hydroxide to 70% (cold)	HKO	D	D	C	D	B	B	B	A	B		C	D	B		B	B	D		C	A		A			D			
Potassium Hydroxide Dilute (hot)	HKO	D	D	B	D	B	C	B	A	A		D	D	B		B	A			D	A		A			D			
Potassium Hydroxide to 70% (hot)	HKO	D	D	C	D	B	C	B	A	B		D	D	B		C	B			D	A		A			D			
Potassium Iodide	IK	B	C	B	B	B	A	A	B	B		A	D	A		A	B	A	B	A		B	A						
Potassium Nitrate	KNO3	B	B	B	B	B	A	A	A	A		A	B	B		A	B	A	B	B	A	A	A			A			
Potassium Oxalate	C2K2O4	B			A	B	B	A		A		A	A	B					B	A			A						
Potassium Permanganate	KMnO4	B	B	B	B	A	A	A	A	A	A	A	B	B		A	B	A	C	C	A	A	A		A	D			
Potassium Phosphate (mono)	KH2PO4	D	C		C	B	A	B	B	B				A		A	A	A		A			A						
Potassium Phosphate Di-basic	K2HPO4	B	B	A	A	A		A	B	B						A	B	A		A			A						
Potassium Phosphate Tri-basic	K3PO4	D		A	A	B		B	B							B	B						A						
Potassium Sulfate	K2O4S	B	C	B	B	A	A	A	A	A		A	B	B		A	A	A	A	B	A	A	A				B		
Potassium Sulfide	HK2S+	C	D	D	C	A	B	B	D	B		A	D	B		A	B	A	A	A	A	A	A				A		
Potassium Sulfite	K2O3S	B	B	D	C	A	B	A	C	B		A	C	B		B	A	A		A			A						
Producer Gas	-	B	B	B	B	B	A	B	A					A		A	D	A		A			A						
Propane Gas	C3H8	A	A	A	A	A	A	A	B	A		A	B	A	A	A	D	A	A	B	A	A	A				A		
Propyl Bromide	C3H7Br	B	B	B	B	A		A	B				B			B	B	B		A			A						
Propylene Glycol	C3H8O2	C	B	B	B	B	A	A	A	A		A	A	B		A	B	A	A	B	A		A		A				
Pyridine	C5H5N	B	B	B	B	B	A	A	C	B		B	B	B		D	B	D	A	B	B	D	A	A	A	A	B		
Pyrolgalic Acid	-	B	B	B	B	B	A	A	A	A		A	A	B		A	B	A	A	D	A	A	A				A		
Quench Oil	-	A	B	B	B	A		A		A						A		A		A			A						
Quinine Sulfate (dry)	C40H50N4O8S				A	A	B	A	B	A				B						A			A						

Ratings: **A**-Excellent | **B**-Good | **C**-Poor | **D**-Do not use | **Blank** -No Information

KEL-F® is a registered trademark of 3M Company, NYLATRON® is a registered trademark of Quadrant DSM Engineering Plastic Products, PEEK® is a trademark of VICTREX, TFM™ is a trademark of Dyneon, Teflon® is a registered trademark of DuPont, DELRIN® is a registered trademark of DuPont, VESPEL® is a registered trademark of DuPont.

CHEMICAL COMPATIBILITY GUIDE

Media	Chemical Formula	Metals													Elastomers				Polymers									
		Aluminum	Brass	Carbon Steel	Ductile Iron / Cast Iron	316/316Ti/321 S.St	17-4PH	Alloy 20	Monel	Hastelloy C®	Inconel 625	Titanium	Bronze	304 Stainless Steel	Duplex	Buna N (Nitrile)	EPDM/EPR	Viton	Flexible Graphite	Delrin®	Peek®	PVDF	Teflon® and Reinforced Teflon	PCTFE	UHMWPE®	Vespe®	PFA	KEL-F®
Resins & Rosins	-	A	A	A	A	A		A	A	A						B		A		A			A					
Resorcinal	C ₆ H ₆ O ₂	A	B	C	C	A	A	A	A	A		A	B	A		D		B		B			A					
Road Tar	C ₂ H ₄ O ₃	A	A	A	A	A		A	A							B		A		A			A					
Roof Pitch	-	A	A	B	B	A		A										A		A			A					
Rosin Emulsion	C ₁₅ H ₂₀ O ₆	A	A	A	A	A	A	A	A	A		A	A	A		D		C		C	A		A					
R P-1 Fuel	-	B	B	C	C	B		A	B	A						A	B	A		B			A	A				
Rubber Latex Emulsions	-	C	C	D	D	A	B	B	C	A		A	B	B		A	B	B	A	C	A	A	A					B
Rubber solvents	-	B	B	C	C	B		A	A			A	B	A		A		A		A		A	A					
Salad Oil	-	B	B		D	B	B	B	B	B		A	B	B		A	A	B	A	A		A	A					
Salicylic Acid	C ₇ H ₆ O ₃					B		B												C			A					
Salt (NaCl)	NaCl+H ₂ O	B	D	C	D	B	B	B	A	A	A	A	A	C	B	A	A	B	A	A		A	A	A	A		A	A
Salt Brine	NaCl	C	C	C	D	B	A	B	B	A			C	B	B	A	B	B		B	A		A					
Sauerkraut Brine	-	A	B	A	B	A	A	A	A	A			A	A		A	A	A	A	A		A						
Sea Water	-	B	B		B	B		B								B		B	A	A	A	A	A	A		A		
Sewage	-	D				C	C	A	B	A			D	D						D			A					A
Shellac	-	D	D	D	D	B		B	B	A			D			B		B		D			A					
Silicone Fluids	Si	D	D	D	D	A	B	A	D	A		A	D	B		C	A	A	A	A	A	A	A	A	A		A	A
Silver Bromide	AgBr	B				A		A		A		A				A	A	A					A					
Silver Cyanide	C _{Ag} N	C	B	B	B	A	A	A	B	A		A	B	A		A	A	A	A	A	A	B	A					
Silver Nitrate	C _{Ag} N	B	B	C	C	B	B	A	B	A		A	B	B		B	A	D	A	B	A	A	A				A	
Silver Plating sol.	-	D	B	B	C	A	A	B	B	B		B	B	A		A	A	A	A	B	A		A					
Soap Solutions (Stearates)	C ₂₁ H ₄₂ O ₄	B				B		B	A	A		A	A			B		B	A	B	A	B	A		A			
Sodium Acetate	C ₂ H ₄ O ₂	C	B	C	C	B	A	A	A	A		A	B	A		A	A	A	A	A	A	A	A			D		A
Sodium Aluminate	AlNaO ₂	B				A	A	A	A	B			C			D			C	A	A		A					
Sodium Benzoate	C ₇ H ₆ O ₂	D	D	D	D	A	A	A	B	B		B	C	A		A	B	A	A	B		A	A				A	
Sodium Bicarbonate	CHNaO ₃	C	B	D	D	A	B	B	C	B		A	B	B		A	B	A	A	C		A	A					
Sodium Bichromate	Cr ₂ Na ₂ O ₇	C	B	C	C	B	A	A	A	A		B	A	B		A	B	A		A		A	A		A			
Sodium Bisulfate 10%	H ₂ NaO ₄ S	D	B	C	D	B	B	B	B	B		A	B	C		A	B	A	A	A	A	B	A				B	
Sodium Bisulfite 10%	HNaO ₃ S	D	B	D	D	A		B	B	B						A	B	A		D			A					
Sodium Borate	C ₁₅ H ₂₂ O ₂	B	B	C	C	B		B	B							A	B	A		A			A		A			
Sodium Bromide 10%	BrNa	B	B	C	D	B		B	B							A	B	A		A			A					

Ratings: A-Excellent | B-Good | C-Poor | D-Do not use | Blank -No Information

KEL-F® is a registered trademark of 3M Company, NYLATRON® is a registered trademark of Quadrant DSM Engineering Plastic Products, PEEK® is a trademark of VICTREX, TFM™ is a trademark of Dyneon, Teflon® is a registered trademark of DuPont, DELRIN® is a registered trademark of DuPont, VESPEL® is a registered trademark of DuPont.

Media	Chemical Formula	Metals													Elastomers				Polymers									
		Aluminum	Brass	Carbon Steel	Ductile Iron / Cast Iron	316/316Ti/321 SSt	17-4PH	Alloy 20	Monel	Hastelloy C®	Inconel 625	Titanium	Bronze	304 Stainless Steel	Duplex	Buna N (Nitrile)	EPDM/EPR	Viton	Flexible Graphite	Delrin®	Peek®	PVDF	Teflon® and Reinforced Teflon	PCTFE	UHMWPE®	Vespe®	PFA	KEL-F®
Sodium Carbonate (Soda Ash)	CNa ₂ O ₃	D	B	B	B	B	A	A	B	A		A	B	A		A	B	A	A	B	A	A	A	A	A	D	A	A
Sodium Chlorate	CINaO ₃	C	B	B	C	B	A	B	C	B		A	B	A		A	B	A	C	A	A	A	A					
Sodium Chloride	CINa	B	C	B	C	B	B	B	B	A		A	B	B		A	A	A	A	B	A	A	A		A			A
Sodium Chromate	CrNa ₂ O ₄	B	C	B	B	A	A	A	A	B			B	B		A	B	A	B	D	A	A	A					A
Sodium Citrate	C ₆ H ₅ Na ₃ O ₇	D				A		B		A										A			A					
Sodium Cyanide	CNNa	D	D	B	B	A	B	A	B	A		A	D	A		A	A	A	A	A		A	A			A		A
Sodium Ferricyanide	C ₆ FeN ₆ Na ₃	B			C	B	B	A	B	B			C	B						A			A			A		
Sodium Fluoride	FNa	B	C	D	D	B	B	A	B	A		A	B	D		A	B	A	A	A	A	A	A					
Sodium Hydroxide 20% (cold)	NaOH	D	C	A	A	A	A	B	A	A	A	A	B	B		A	B	B	A	B	A	A	A		A	D		A
Sodium Hydroxide 20% (hot)	NaOH	D	C	B	B	A	B	B	B	A	A		B			B	B	C	A	C		A	A		A	D		
Sodium Hydroxide 50% (cold)	NaOH	D	D	A	B	A	A	B	A	A		A	D	B		A	B	C	A	C	A	A	A		A	D		B
Sodium Hydroxide 50% (hot)	NaOH	D	D	B	B	A	B	B	B	B			D			B	C	C	A	C		A	A		A	D		
Sodium Hydroxide 70% (cold)	NaOH	D	D	C	B	A	A	B	A	A		A	D	C		B	C	D	A	D	A	A	A		A	D		A
Sodium Hydroxide 70% (hot)	NaOH	D	D	C	B	A	B	B	B	B			D			D	C	D	A	D		A	A		A	D		
Sodium Hypochlorite (Bleach)	CINaO	D	D	D	D	D	D	D	D	A		C	D	D		B	C	B	B	D	B	A	A		A	D		A
Sodium Hyposulfite	Na ₂ S ₂ O ₄	B				B		B	B											A			A					
Sodium Lactate	C ₃ H ₅ NaO ₃	D				A		A	B											A			A					
Sodium Metaphosphate	Na ₆ O ₁₈ P ₆	C	D	C	B	B	A	A	B	A			B	A		A	A	A	A	B	A	A	A					
Sodium Metasilicate (cold)	Na ₂ O ₃ Si	D	B	B	C	A	A	A	A	A			A	A		B	B	B		D	A		A					
Sodium Metasilicate (hot)	Na ₂ O ₃ Si	D	B	C	D	A	A	A	A	A										D			A					
Sodium Nitrate	NNaO ₃	B	B	B	B	A	B	A	B	B		A	B	B		C	A	A	C	A	A	A	A		A	A		A
Sodium Nitrite	NNaO ₂	A		B	B	B	A	A	B	B			B	A		C	A	B		B	A		A					
Sodium Perborate	BNaO ₃	C	D	B	C	C	A	A	A	A			B	B		C	A	A	C	B	A		A					A
Sodium Peroxide	Na ₂ O ₂	C	C	C	D	B	A	A	A	B			D	A		C	A	A	A	D	A	A	A	A	B		A	A
Sodium Phosphate (mono)	NaH ₂ PO ₄	D	C	B	D	B	A	A	B	A		A	C	B		B	A	A		B	A		A					
Sodium Phosphate Di-basic	Na ₂ HPO ₄	D	C	C	C	B	A	B	B	A		A	C	A		A	A	A	A	A	A		A					
Sodium Phosphate Tri-basic	Na ₃ PO ₄	D	C	C	C	B	A	B	B	A		A	C	A		B	A	A		A			A					
Sodium Polyphosphate	Na ₆ O ₁₈ P ₆	D	D		D	B	B	B	B	A		A	C	B		B	A	A	A	B		A	A					A
Sodium Salicylate	C ₇ H ₅ NaO ₃				A	A		A									A			C			A					
Sodium Silicate	Na ₂ O ₃ Si	B	C	B	B	B	A	A	A	A		A	D	A		A	A	A	A	C	A	A	A	A	A		A	A
Sodium Silicate (hot)	Na ₂ O ₃ Si	C	D	C	C	B	B	B	B	B			D				B		A	C			A		A		A	

Ratings: **A**-Excellent | **B**-Good | **C**-Poor | **D**-Do not use | **Blank** -No Information

KEL-F® is a registered trademark of 3M Company, NYLATRON® is a registered trademark of Quadrant DSM Engineering Plastic Products, PEEK® is a trademark of VICTREX, TFM™ is a trademark of Dyneon, Teflon® is a registered trademark of DuPont, DELRIN® is a registered trademark of DuPont, VESPEL® is a registered trademark of DuPont.

CHEMICAL COMPATIBILITY GUIDE

Media	Chemical Formula	Metals													Elastomers				Polymers									
		Aluminum	Brass	Carbon Steel	Ductile Iron / Cast Iron	316/316Ti/321 S.St	17-4PH	Alloy20	Monel	Hastelloy C®	Inconel 625	Titanium	Bronze	304 Stainless Steel	Duplex	Buna N (Nitrile)	EPDM/EPR	Viton	Flexible Graphite	Delrin®	Peek®	PVDF	Teflon® and Reinforced Teflon	PCTFE	UHMWPE®	Vespel®	PFA	KEL-F®
Sodium Sulfate	Na2O4S	A	B	B	B	A	A	A	A	A		A	B	B		A	A	A	A	B	A	A	A			A		A
Sodium Sulfide	HNaS	D	D	C	B	B	A	A	A	B		A	D	B		A	A	A	A	B	A	A	A	A	A		A	B
Sodium Sulfite	NaO3S-	C	C	B	A	A	A	A	C	A		A	B	B		A	A	B	A	A		A	A				A	
Sodium Tetraborate	C15H22O2	C	D		A	A	A	A		B			B	A		A	A	A	A	B			A					
Sodium Thiosulfate	Na2S2O3	A	D	C	C	B	A	B	B	B		A	B	A		A	A	A	A	C	A	A	A				A	
Soybean Oil	-	B	B	C	C	A	A	A	A	A		A	A	A		A	B	A		D			A					
Starch	C27H48O20	B	B	B	B	A	A	A	A	A			B	A		A	C	A		A	A	A	A	A		A	A	
Steam (212°F)	-	B	B	A	A	A	A	A	A	A			B	A	A	D	B	C	A	D	A		A					
Stearic Acid	C18H36O2	B	C	C	C	B	A	A	A	A		A	B	B		A	B	A	A	A	A	A	A		A			
Styrene	C8H8	A	A	B	B	A	A	A	A	A			B	A		D	D	B	A	A	A		A					
Sugar Liquids	-	A	A	B	B	A	A	A	A	A		A	A	A		A	A	A	A	A	A		A	A	A			
Sugar, Syrups & Jam	-	B	B	B	C		A	A	A	A		A	C	A			A		A	A	A	A	A	A		A		
Sulfate Black Liquor	H2O4S	D	C	C	C	B	A	B	B	B			D	B		C	A	B	A	D	A	A	A	A				
Sulfate Green Liquor	H2O4S	D	C	C	C	B	A	B	B	B			D	B		C	A	B	A	D	A	A	A	A				
Sulfate White Liquor	H2O4S	D	C	C	C	B	B	B	C	B			D	B		C	A	B	A	D	A	A	A	A				
Sulfur	S	C	C	C	C	B	A	A	B	A			D	A		D	C	B	A	B	A	A	A	A		A		
Sulfur Chloride	SCl	D	D	D	D	D	D	C	D	B		D	C	D		D	C	A	C	D	A	B	A				A	
Sulfur Dioxide (dry)	SO2	B	B	B	B	A	A	B	B	A		A	B	C		D	B	A	A	B	A	A	A	A	A	A	A	
Sulfur Dioxide (wet)	SO2	B	D			B	C	B	A	A		A	D	D		D	B		A	B	A	B	A	A	A	A	A	
Sulfur Hexafluoride	SF6	A	B			A		A		C						B	B	B		D	A		A					
Sulfur, Molten	-	A	D	C	B	B	A	A	C	B				A		D	B	B		D			A					
Sulfur Trioxide	SO3	A	D	B	B	B	B	A	A	A		C	C	A		D	B	B	C	D	A	D	A		D		A	
Sulfur Trioxide (dry)	SO3	A	C	B	B	B	B	B	B	B		D	B	D		D	B	A	D	D			A		D		A	
Sulfuric Acid 0 to 77%	H2SO4	D	D	D	D	C	C	B	C	A		C	D	D		B	C	A	B	D	D	A	A	A	A	B	A	
Sulfuric Acid 100%	H2SO4	D	D	C	C	C	C	B	C	B		D	D	C		D	C	B	D	D	D	A	A	A	A	D	A	
Sulfurous Acid	H2O3S	C	D	D	D	B	B	B	B	B		A	D	B		C	C	A	A	C	B	B	A		A		A	
Tall Oil	-	C	B	B	B	A	A	A	A	A			B	A		B	D	A		A			A	A				
Tannic Acid (Tannin)	C27H24O18	C	B	C	C	B	B	B	B	B		A	B	B		B	A	A	A	B	A	B	A	A	A	A	A	
Tanning Liquors	C27H24O18	A	A			A	A	A	A	A		A	A	A		B	B	A	A	B			A					
Tar & Tar Oils	C2H4O3	B	A	A	A	A	A	A	A	A			A	A		C	D	A		A	A		A	A				
Tartaric Acid	C4H6O6	B	D	D	D	A	A	A	A	B		A	B	C		C	B	A	A	B	A	B	A	A	A	A	A	

Ratings: A-Excellent | B-Good | C-Poor | D-Do not use | Blank -No Information

KEL-F® is a registered trademark of 3M Company, NYLATRON® is a registered trademark of Quadrant DSM Engineering Plastic Products, PEEK® is a trademark of VICTREX, TFM™ is a trademark of Dyneon, Teflon® is a registered trademark of DuPont, DELRIN® is a registered trademark of DuPont, VESPEL® is a registered trademark of DuPont.

Media	Chemical Formula	Metals													Elastomers				Polymers									
		Aluminum	Brass	Carbon Steel	Ductile Iron / Cast Iron	316/316Ti/321 SSt	17-4PH	Alloy 20	Monel	Hastelloy C®	Inconel 625	Titanium	Bronze	304 Stainless Steel	Duplex	Buna N (Nitrile)	EPDM/EPR	Viton	Flexible Graphite	Delrin®	Peek®	PVDF	Teflon® and Reinforced Teflon	PCTFE	UHMWPE®	Vespe®	PFA	KEL-F®
Tetraethyl Lead	C ₈ H ₂₀ Pb	B	B	B	C	B	A	A	A				A	A		B	D	A		A	A		A					
Toluol (Toluene)	C ₇ H ₈	A	A	A	A	A	A	A	A			A	A	A	A	D	D	B	A	C	A	B	A		B	A		B
Tomato Juice	-	A	C	B	C	A	A	A	A				B	A		A	A	A	A	B	A	A	A					A
Transformer Oil	-	A	B	A	B	A	A	A	A				A	A		A		A	A	A	A		A		A			
Tributyl Phosphate	C ₁₂ H ₂₇ O ₄ P	A	A	A	A	A	A	A	A				B	A	A	D	B	D		A			A		A			
Trichlorethylene	C ₂ HCl ₃	B	A	B	C	B	A	A	A			B	B	B		D	D	B	A	C	A	B	A			A	A	A
Trichloroacetic Acid	C ₂ HCl ₃ O ₂	D	B		D	D	C	B	B	A		D	B	D		C	B	C	A	D	A	B	A		A			A
Triethanolamine	C ₆ H ₁₅ NO ₃	B		C	C	B	A	A	A				C	A		C	A	D		A	A		A		A			
Triethylamine	C ₆ H ₁₅ NO ₃		B	A		B		B		A			A			B	A	C	A	D		B	A					A
Trisodium Phosphate	Na ₃ O ₄ P	D		A	B	A	A	A	A				C	B		A	A	B	A	A	A	A	A			D		
Tung Oil	-	B	B	B	B	A	A	A	A				B	A		A	D	A		A	A		A					
Turpentine	C ₁₀ H ₁₆	A	C	B	B	B	A	A	A			B	B	A		B	D	A	A	A	A	A	A		A			A
Urea	CH ₄ N ₂ O	B	B	C	C	B	A	A	B	B		A	C	B		C	B	C	A	A	A	A	A		A		A	
Uric Acid	C ₅ H ₄ N ₄ O ₃	C				A	B	A		B		A	B	B					A	B			A					
Varnish	-	A	B	C	C	A	A	A	A				A	A		C	D	B	A	A	A		A					A
Vegetable Oils	-	A	B	A	B	A	A	A	A				B	A		A	C	A		A	A		A	A				
Vinegar	C ₂ H ₄ O ₂	D	C	D	D	A	A	A	A			A	C	A		C	A	C	A	B	A	B	A	A			A	A
Vinyl Acetate	C ₄ H ₆ O ₂	B	B	A	B	B	A	B	B	A			C	B		D	B	C	A	C	A	B	A					
Water (distilled)	H ₂ O	A	B	C	D	A	A	A	A			A	A	A		A	A	B	A	B	A	A	A	A	A	B	A	A
Water (fresh)	H ₂ O	A	B	C	C	A	A	A	A		A	A	A	A		A	A	B	A	A	A	A	A	A		B	A	A
Water (acid mine)	-	D	D	D	D	B	A	A	B	B		A	C	B	B	A	A	D	A	A		A	A	A				A
Waxes	-	A	A	A	A	A		A	A							A	C	A		A	A		A					
Whiskey & Wines	-	C	B	D	D	A	A	A	A			A	B	A		A	A	A	A	A	A	A	A					A
Xylene, Xylol (dry)	C ₂₄ H ₃₀	A	A	B	B	A	A	A	A			A	A	B		D	D	B	A	A	A	A	A		B			A
Zinc Bromide	Br ₂ Zn	D	B		D	B		B	B	A				D		B	B	B	A	A			A					
Zinc Hydrosulfite	ZnS ₂ O ₄	D	C	A	B	A		A	B	B			D	A		A	A	A		C			A					
Zinc Sulfate	ZnSO ₄	D	C	C	D	B	A	A	B	B		A	C	B		A	A	A	A	C	A	A	A			A		A
Zinc	Zn	C				A				A				A			A	A					A					

Ratings: **A**-Excellent | **B**-Good | **C**-Poor | **D**-Do not use | **Blank** -No Information

KEL-F® is a registered trademark of 3M Company, NYLATRON® is a registered trademark of Quadrant DSM Engineering Plastic Products, PEEK® is a trademark of VICTREX, TFM™ is a trademark of Dyneon, Teflon® is a registered trademark of DuPont, DELRIN® is a registered trademark of DuPont, VESPEL® is a registered trademark of DuPont.

CHEMICAL COMPATIBILITY GUIDE

The information presented in this bulletin is intended as a guide to the chemical resistance of materials used in HABONIM Valves. The physical properties of a material are affected differently by each corrosive media. An "A" rating is associated with internal moving parts, in direct contact with the media. In some cases a "B" rating can be given to body material in direct contact with media if the corrosion rate is not such as to cause any serious problem.

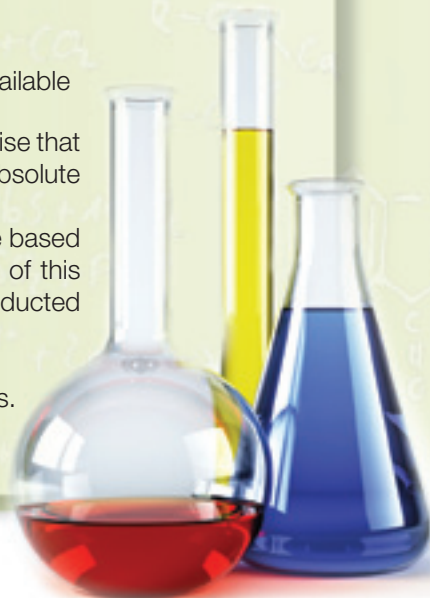
Rating Explanation

A → Excellent B → Good C → Poor D → Do not use Blank → No information available

Ratings are based on media at room temperatures unless otherwise specified. We advise that ratings given be used as a guide to the selection of valve materials and not as an absolute recommendation.

Although most of the suggested ratings in the Chemical Compatibility Guide chart are based on experience, Habonim cannot accept responsibility for problems arising from use of this Information. We do however recommend that in critical applications, tests will be conducted to verify the rating.

This catalogue covers the standard materials supplied as part of Habonim valves series. Please contact the Habonim engineering team for assistance regarding the chemical compatibility of available materials not included in this catalogue.



In accordance with our policy to strive for continuous improvement of the product, we reserve the right to alter the dimensions, technical data and information included in this catalogue when required. KEL-F® is a registered trademark of 3M Company, NYLATRON® is a registered trademark of Quadrant DSM Engineering Plastic Products, PEEK® is a trademark of VICTREX, TFM™ is a trademark of Dyneon, Teflon® is a registered trademark of DuPont, DELRIN® is a registered trademark of DuPont, VESPEL® is a registered trademark of DuPont

Copyright © 2013 HABONIM Ltd. All rights reserved



www.habonim.com

ISRAEL
Habonim Headquarter
Tel: +972-4-6914911 / 6914903
Fax: +972-4-6914935
sales_international@habonim.com

USA
Habonim USA
Toll Free Phone: 1-866-261-8400
Toll Free Fax: 1-866-243-9959
sales_usa@habonim.com

U.K
Habonim UK
Tel: +44-1633-484554
Fax: +44-1633-482252
sales_uk@habonim.com

China
Habonim China
Tel: + 86 21 64453190 *146
Fax: + 86 21 64453191
sales_china@habonim.com

MAXMARK