

CHEMICAL COMPATIBILITY TABLE

For ChemQuik®, DrumQuik®, DrumQuik PRO & Other Common Colder Series Coupling Materials (Updated 08/10/2011)

INTERPRETATION OF TEST DATA (In 30 days to 1 year of exposure) table with columns for Swelling (Linear/Volumetric), Loss of Tensile Strength (Plastics/Elastomers), and Description of Chemical Attack.

WARNING: The compatibility data in this guide was assembled from 3 main sources, a) the Chemical Resistance Guides published by COMPASS PUBLICATIONS, b) the Chemical Resistance Guide published by VICTREX, the manufacturer of PEEK™ and c) the chemical manufacturers themselves.

Main chemical compatibility table with columns for CHEMICAL, SPRING Materials, COUPLING Materials, and SEAL Materials.

CHEMICAL COMPATIBILITY TABLE

For ChemQuik®, DrumQuik®, DrumQuik PRO & Other Common Colder Series Coupling Materials

(Updated 08/10/2011)

INTERPRETATION OF TEST DATA (In 30 days to 1 year of exposure)					
A B C NR	Swelling		Loss of Tensile Strength		Description of Chemical Attack
	Linear (Plastics)	Volumetric (Elastomers)	(Plastics)	(Elastomers)	
A	< 10%	<= 15%	< 15%	<= 15%	Excellent, little or no swelling, softening or surface deterioration Good chemical resistance, minor swelling, softening or deterioration Limited chemical resistance, moderate attack, conditional service Severe attack, not recommended for use
B	< 15%	<= 30%	< 30%	<= 30%	
C	< 20%	<= 50%	< 50%	<= 60%	
NR	> 20%	> 50%	> 50%	> 60%	

NOTE: All temperatures are in degrees Fahrenheit. Conversion: °C = (°F - 32)/1.8

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CHEMICAL		SPRING Materials					COUPLING Materials							SEAL Materials							
Name	Formula (CAS #)	Hastelloy C (276)	316 SS	PPS	PEEK™	PTFE Encapsulated 316SS (TESS)	Polypropylene	HDPE	PVDF	PTFE/PFA	Acetal/POM (Celcon)	ABS	Polysulfone	Polycarbonate	FKM (Viton®)	EPDM	FFKM (Chemraz® / Simriz® / Kalrez®)	Buna	TPO (Santoprene)	Silicone	
Ceric Ammonium Nitrate (CAN)	CeH8N8O18 (16774-21-3)	NO DATA	NO DATA	NO DATA	A	A	NO DATA	** (OK Fluorinated/TEST) NO DATA	NO DATA	A	NO DATA	NO DATA	NO DATA	NO DATA	NO DATA	NO DATA	NO DATA	NO DATA	NO DATA	NO DATA	
Chlorine (Anhydrous) (Dichlorine, Chlorinated water)	CL2 (7782-50-5)	A to 140° (to 10 ppm to 70°)	A to 70° (to 10 ppm to 70°)	NR	A to 10% to 70° NR Conc. @ 70°	A (PTFE Encapsulated 316 Stainless St.)	NR	A to 2% to 140° NR	A to 100% to 200° AB at 100% to 230° NR	A	NR at 10-100% at 70°	NR	NR at 70°	NR at 70°	C 400 ppm at 70° C 400 ppm at 104°	A to 70°	C sat'd at 70° NR 400 ppm at 70°	NR	NR at 70°		
Chlorine Dioxide (CDG Solution 3000, 0.3% Sol., 3000 ppm) CLOROX® (5.25% Sodium Hypochlorite)	CLO2 10049-04-4 CLNaO	A to 70° AB 15% to 175° C 8-10% @ 150°	A 4-5% to 36° NR 10-100% @ 70°	A	NR	A	NR 15-100% @ 70°	** (OK Fluorinated/TEST) NR @ 70°	A to 70° (Stressed) B to 120° (Stressed) NR with UV Present	A	NO DATA	B @ 70°	NO DATA	NO DATA	AB to 8% @ 70° NR 15% @ 70° A 8% (HIFLUOR)	NR 8% @ 70°	A	NR 8% @ 70°	NR @ 70°	C/NR @ 70°	
Citric Acid	C6H8O7 (77-92-9)	A to boiling	A to 50% B@100% 70-212° NR 60-100% >125°	A to 220°	A to 212°	A (PTFE Encapsulated 316 Stainless St.)	A to 120° AB to 175° NR @ 212°	A to 150°	A to 100% to 160° AB to 100% at 180°	A	AB at 15% at 140-150° B at 15-100% at 70° C at 100% at 140-150°	A 10% to 70° B 20% 2 70°	A to 100% to 150° A to 100% 10 70°	A to 100% to 70° B at 10-15% at 120° C at 15% at 150°	A	A	A	A to 200° B at 212°	A to 70°	A to 200°	
Copper Sulfate (Cupric Sulfate)	CuO4S (7758-98-7)	A to boiling	A to 100% to 160° A to 45% to 180° A to 10% to 2121°	A to 223°	A to 212°	A (PTFE Encapsulated 316 Stainless St.)	A	A to 50% to 150° AB at 50-100% to 180°	A	A	AB to 100% to 140°	A to 70°	A to 200°	A to 100% to 70°	A to conc. to 176° AB to 212°	A to conc. to 176° AB to 212°	A	A to conc. to 176° AB any conc to 212°	A 5% to 70° A sol'n to 70°	A to 200°	
Corn Oil	NA	A	A	A to 100°	A to 70°	A	A	A	A	AB	A to 70°	A	A	A	NR	A	A	A	A to 212°	A to 200°	
Corn Syrup	NA	NO DATA	A	A to 100°	A to 70°	A	A	A to 150°	A	AB to 140°	AB to 70°	A	A	A	A	A	A	NO DATA	NO DATA	A to 200°	
Cotton Seed Oil	NA	A	A	A to 200°	A	A	A	A to 140°	A	AB	NO DATA	A	A	A	A	A	A	A	AB to 70°	A to 200°	
Cresol (M, O & P)	C14H16O2	AB to 200°	AB 100° A 100% to 140°	A to 200°	A to 70°	A	NR	AB to 50% C/NR 50-100% @ 70° ** (OK Fluorinated/TEST)	A to 150°	A	NR 50 - 100%	NR	NO DATA	NR	A to 104°	NR	A	C/NR	NR	C/NR	
Cyanide Solutions (Hydrogen Cyanide, Formonitrile) (Hydrocyanic acid solution, <20%) Cyclohexanone (Cyclohexyl ketone)	CHN (74-90-8) C6H10O (108-94-1)	A 50% to 70° B 100% to 224° A 100% to 140°	A 10% to 70° B 10% @ 212° A 100% to 140°	NO DATA	A to 212°	A	A to 180°	A to 150° AB to 180°	A	NR	NR	B @ 70°	B @ 70-200°	B @ 70°	A to 140°	A to 140°	A	AB to 140°	AB 100%	AC @ 70° NR @ 120°	
Diacetone Alcohol (Dikeytone Alcohol, Pyranon)	C6H12O2 (143-42-2)	A to 140°	A @ 10% to 77% AB @ 100% to 480°	NO DATA	A	A	AB to 70° B at 70-100° NR at 120°	NR	AB to 70° B @ 104-122° NR @ 160°	A	A to 70°	NR	NR at 70°	NR at 70°	NR	NR	HIFLUOR A to 70° NR	A to 160° AB to 300°	NR	B @ 70° B/NR @ 70° NR @ 158°	
Dibutyl Phthalate (DBP)	C16H22O4 (84-74-2)	AB to 200°	AB to 150° AB @ 100% to 480°	A to 200°	A to 70°	A	AB to 185°	BC @ 70-140° NR >140°	AB to 70° B @ 100° C @ 140°	A	A to 70° AB to 140°	NR	AB to 185° NR @ 200°	NR	BC 70-104° (static) NR (dynamic) A Viton ETP	NR	AB (static) C (dynamic)	NR	B @ 70°	B @ 70 (static) C (dynamic)	
Dichloroacetic Acid (DCA)	CL2CHCO2H (79-43-6)	NO DATA	NO DATA	NO DATA	A to 100° NR >100°	A (PTFE Encapsulated 316 Stainless St.)	AB to 100% to 125°	BC at 70°	AB to 50% to 212° AB 100% to 125°	A	NO DATA	NO DATA	NO DATA	NO DATA	NR	NR	HIFLUOR A to 70° B @ 70°	NR	NO DATA	NR	
Dichloromethane (Methylene Dichloride)	CH2CL2 (75-09-2)	AB	A to 70°	A 100% to 70° A/NR 40% @ 100°	NR	A (PTFE Encapsulated 316 Stainless St.)	B/NR @ 70° C/NR @ 88-122°	NR	AB to 100° to 100° B 100% 104 - 125°	A	A to 70°	NR	NR at 70°	NR at 70°	NR	NR	HIFLUOR A to 70° B @ 70°	BC to 130° NR @ 140°	NR	NR	
Diesel Fuel	N/A	A to 140° AB to 200°	A to 200°	A to 200°	A to 70°	A	AC @ 70° BC @ 120°	A to 70° BC @ 140°	AB to 125°	A	A to 150°	NO DATA	A to 200°	A to 200°	NR	NR	A (Low sulfur & #2) A (#2 & Ethanol) B (#2 & Methanol) A	NR	A to 70° AB to 250°	C/NR	NR
Diethylene Glycol (Ethylene Diglycol, Carbitol, Glycol Ether)	C4H10O3 (111-46-6)	B 100% @ 70°	A	NO DATA	A 90% to 70°	A	A to 225°	A to 140°	A to 140°	A	A 90 - 100% to 70°	B @ 70°	B @ 70-122°	B @ 70°	A	A	A	A	A	B 70-200° C @ 70° (Dynamic)	
Diethanolamine (DEA, Diolamine)	C4H11NO2 (111-42-2)	A	A	NO DATA	A to 120° B @ 150° NR > 150°	A	A 100% to 150° AB 100% to 225°	AB to 70°	NR	A	NO DATA	NO DATA	A to 70°	NO DATA	NR	AB 70-160°	A	NR	A to 70°	NR	
Diisopropylether (Isopropylether)	C6H14O (108-20-3)	NO DATA	NO DATA	A to 70°	A	A	NR	B/NR at 70° NR at 140°	A 100% to 100°	A	A to 70°	NO DATA	NR	NR	NR	HIFLUOR B to 70°	NR	B to 100% to 140° NR @ 200°	C/NR @ 70°	NR	
Dimethyl Acetamide (DMAC)	C4H9NO (127-19-5)	A	A	NO DATA	A	A	AB to 125°F	A to 122°	NR	A	NO DATA	NO DATA	NR at 70°	NR at 70°	NO DATA	NO DATA	NO DATA	NO DATA	NO DATA	AB to 70° C @ 70° (Dynamic)	
Dimethyl Sulfoxide (DMSO)	C2H6OS (67-68-5)	A	A	A to 200°	B @ 70-122°	A	A to 125°	A to 122°	NR	A	NR	NO DATA	NR	NR	NR	A to 70°	A	NR	A	A to 70° (Static) C @ 70° (Dynamic)	
Diocetyl Phthalate (DOP)	C24H38O4 (82208-43-3)	A to 100°	A @ 100% to 100° AB to 480°	A to 200°	A	A	NR	C/NR @ 70° NR @ 120°	AB to 70° BC @ 104° C @ 104°	A	A to 70°	NR	A @ 100% to 70°	NR	NR	HIFLUOR A to 70°	B 70-200° (static) C @ 70° (dynamic)	NR	NR	NR	
Dipropylene Glycol (Polypropylene Glycol)	C6H14O3 (78644-49-2)	NO DATA	NO DATA	NO DATA	NO DATA	A	A to 125°	A to 122° AB to 150°	AB	A	A to 70°	NO DATA	B @ 70-122°	B @ 70° C @ 122°	A	A	A to 70°	A to 70°	A to 70°	NO DATA	
Dipropylene Glycol Methyl Ether (DPGME)	C7H16O3 (83730-60-3)	NO DATA	NO DATA	NO DATA	NO DATA	A	AB to 150°	NO DATA	AB to 75°	A	NO DATA	NO DATA	NO DATA	NO DATA	NO DATA	NO DATA	NO DATA	NO DATA	NO DATA	NO DATA	
DI water (Deionized Water) (Ultra Pure Water, 17 megaohm +) Ethanolamine (ETA, 2-Aminoethanol)	H2O C2H7NO (9007-33-4)	A	@ 12 - 18.2 megaohm A @ < 12 megaohm	A to 200°	A	A (PTFE Encapsulated 316 Stainless St.)	A	A to 140°	A	A	NO DATA	A to 70°	A to 200°	NO DATA	A to 70° AB to 200°	A	A	A to 70° AB to 200°	NO DATA	AB to 70° C @ 70° (Dynamic)	
Ether	C4H10O	A@100% to 200°	A@100% to 212°	A to 200°	A to 212°	A to 500°	NR	NR at 100% at 140°	AB to 94°	A	A to 70°	NR	NR at 70°	NR at 70°	NR	NR	A	NR at 70°	NR	NR	

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B	< 15%	<= 30%	< 30%	<= 30%	
C	< 20%	<= 50%	< 50%	<= 60%	
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CHEMICAL		SPRING Materials					COUPLING Materials							SEAL Materials						
Name	Formula (CAS #)	Hastelloy C (276)	316 SS	PPS	PEEK™	PTFE Encapsulated 316SS (TESS)	Polypropylene	HDPE	PVDF	PTFE/PFA	Acetal/POM (Celcon)	ABS	Polysulfone	Polycarbonate	FKM (Viton®)	EPDM	FFKM (Chemraz® / Simriz® / Kalrez®)	Buna	TPO (Santoprene)	Silicone
Iso Butyl Alcohol (Isobutanol, Isopropylcarbinol))	C4H10O (78-83-1)	A to 140°	A to 140° AB to 480°	A to 200°	A	A	A to 122°	A to 140°	A to 275°	A	A to 70°	NO DATA	A to 70° AB @ 122-200°	A to 70° AB @ 122-200°	A to 160° AB to 400°	A to 160° AB to 300°	A	C @ 70° (Dynamic) B to 160° (Static)	C/NR @ 70°	A to 160°
Isopropyl Acetate	C5H10O2 (108-21-4)	B @ 70°	A to 100% to 175°	NO DATA	A	A	AB to 100% @ 176° C @ 125°	A to 70°	A to 280°	A	A/NR @ 70°	NR @ 70°	C/NR @ 70°	NR	NR	AB to 160°	A	NR	B @ 70°	NR
Isopropyl Alcohol (IPA, Isopropanol, 2-Propanol)	(CH3)2CH-OH (67-63-0)	A@100% to 212° A@47% to 356° A@11% to 70°	A to 100% to 140° A@100% to 212°	A to 200°	A to 75°	A (PTFE Encapsulated 316 Stainless St.)	A to 225°	A to 160°	A to 150° AB to 158°	A	A to 70°	A to 70° (No stress)	A to 122° AB at 185°	A to 125°	A to 170° B @ 212°	A to 160° A to 176°	A	A to 70° B any conc to 130°	A to 70°	A to 160°
KEROSENE	NA	A	A	AB to 200°	A to 70°	A	AB to 80° BC @ 122° NR @ 140°	C/NR @ 70° NR @ 100°	A	A	A to 180°	BC @ 70°	AB to 200°	A to 70° AC @ 122°	A to 158°	NR	A	A	NR	NR
Keytones (MEK, 2-Heptanone, MAK, etc.)	NA	A to 200°	A	A	A to 212°	A	AB to 80°	** (OK Fluorinated/TEST) B @ 70°	NR	A	AB to 120°	NR	NR	NR	NR	A to 200°	A	A to 200°	NR	NR
Lactic Acid	C3H6O3 (50-21-5)	A to 85% to 125° B 65-100% to 212°	A to 75% to 120° A @ 100% to 120° B 25-75% 125-212° A to 140°	A	A	A	A to 100% to 150°	A to 140°	A to 100% to 100° B 100% @ 120° AB to 80%	A	AC to 100% fr 70-140°	NR	A to 100% to 200° A to 60% to 300°	A to 100% to 70° AB to 100% @ 122-200°	A to 100% to 140° A to 80% to 176°	A to 100% to 140° A to 80% to 176°	A	A to 100% to 70° B 25-80% @ 104° C 25-80% @ 104°	A to 70°	A to 70° A to 140° - 200°
Limonene (D-Limonene / DL-Limonene) (Orange Oil)	C10H16 (138-86-3) (59-8927-5)	A to 70°	A to 140°	NO DATA	A	A	B @ 70° C @ 122°	B @ 70° C @ 122°	A to 122°	NR @ 70°	NO DATA	C @ 70 - 122°	C @ 70 - 122°	A to 140°	NO DATA	NO DATA	A to 140°	A to 140°	C @ 70°	NR @ 70°
Methane Sulfonic Acid (MSA) (Alkane Sulfonic Acid)	CH4O3S (75-75-2)	NO DATA	NO DATA	NO DATA	NR	A	A to 125° NR @ 140°	NR @ 70°	A to 200°	A	NO DATA	NO DATA	NO DATA	NO DATA	A to 70°	NR	A	A to 70°	NO DATA	AB to 70° (Static) C (dynamic)
Methoxy Butanol (3-Methoxy-1-Butanol)	C5H12O2 (2517-43-3)	NO DATA	NO DATA	NO DATA	A	A	NO DATA	NO DATA	NO DATA	A	NO DATA	NO DATA	NO DATA	NO DATA	A to 70°	AB @ 70°	A	A to 70°	NO DATA	NO DATA
Methoxy Ethanol (Ethylene Glycol Monomethyl Ether)	C3H8O2 (109-86-4)	NO DATA	NO DATA	NO DATA	A	A	A to 122°	A to 122°	A to 122°	A	NO DATA	NO DATA	NR	NR	BC @ 70° NR (Dynamic) HIFLUOR A to 70°	A to 70°	A	BC @ 70° NR (Dynamic)	NO DATA	AB to 70° C @ 70° (Dynamic)
Methylacrylic Acid (Methacrylic Acid)	C4H6O2 (79-41-4)	A to 131°	A to 194° (liquid) A to 131° (vapor)	NO DATA	NO DATA	A	NO DATA	NO DATA	A to 125°	A	NO DATA	NO DATA	NO DATA	NO DATA	NR	B @ 70°	A	NR	NO DATA	NR
Methyl Alcohol (Methanol, Wood Alcohol)	CH3OH (67-56-1)	A to 212°	A	A to 150°	A to 212°	A (PTFE Encapsulated 316 Stainless St.)	A to 70° BC 100 @ 180°	A to 100% to 122° AB at 100% at 140° B/NR at 100% at 150-180°	A to 148° AB 212-257°	A	A to 140° B at 180°	NR	A at 100% to 70° C at 100% at 120° NR at 100% at 200°	AB at 50% to 70° B at 70° C at 122°	HIFLUOR A to 70° B @ 70°	A to 160° AB to 176°	A	A to 70° AB any conc to 150°	A to 70°	A to 100% to 70° A @ 100% to 158°
Methylene Chloride	CH2CL2 (75-09-2)	A	A to 100% to 200° A to 90% to 212°	A 100% to 70°	A to 70°	A (PTFE Encapsulated 316 Stainless St.)	NR	NR	AB to 100°	A	A to 70°	NR	NR at 100% at 70°	NR at 70°	HIFLUOR A to 70°	BC to 130°	A	NR at 70°	NR @ 70°	NR
Methyl Ethyl Ketone (MEK)	C4H8O (78-93-3)	A to 200°	A to 200°	A to 100% to 70°	A to 212°	A	A to 100% to 70° AB at 100% at 125° AB at 100% at 122°	BNR @ 70-122°	NR	A to 500°	A to 70° AB at 70-180°	NR	NR at 40-100% at 70°	NR at 100% at 70°	NR at 70°	A to 140° AB to 240°	A to 70°	NR any conc at 70°	BC @ 70°	NR
MINNCARE® Cold Sterilant (Hydr. Peroxide (24%), Peracetic acid (6%), Acetic acid (10%))	H2O2 C2H4O3 C2H4O2	A	A	AB	A	A	A	AC (Embrittles over time)	AB	A	NR	B	A	A	B	B	A	B	A	NR
Mineral Oil (Baby Oil, Petrolatum)	NA (8012-59-1)	A to 200°	A	A	A to 70°	A	A to 100% B @ 104° C @ 120-140°	C @ 70°	A	A	A to 140°	AB to 70°	AB to 70°	A to 70°	A to 70°	NR	A	A	B/NR @ 70°	B @ 70° C @ 70° (Dynamic)
Mineral Spirits (Petroleum Distillates, Dispersol) (Stoddard Solvent, Paint Thinner)	NA (8052-41-3) (64742-47-8)	B @ 70°	A	A to 70°	A	A	NR	** (OK Fluorinated/TEST) C @ 70°	A	A	A to 70°	A/NR @ 70°	NR	B/NR @ 70°	A	NR	A	A	AB to 70°	NR
Monoethanolamine (Aminoethanol, MEA)	C2H7NO (9007-33-4)	A	A	A 100% to 200°	A to 110° B < 110°	A	A 100% to 70° BC 100% 70-180°	AB to 70° B @ 122°	NR	A	NR	NO DATA	A to 200°	NR	NR	B @ 70-80° NR 100 @ 120°	A	A to 120° C @ 70° (dynamic)	A to 70°	B @ 70° NR @ 120°
Motor Oil	N/A	A to 70°	A to 140°	A to 200°	A	A	A 100% to 70° C @ 120° NR @ 140°	B/NR @ 70°	A	A	A to 160°	B @ 70°	A to 200°	A to 200°	A to 190°	NR	A	A to 190°	AB to 70°	AB to 70° C @ 70° (Dynamic)
N-Methyl 2-Pyrrolidone (NMP)	NMP CH3N(CH2)3CO (872-50-4)	A	A	A to 70°	A	A (PTFE Encapsulated 316 Stainless St.)	A	A	C/NR @ 70°	A	NO DATA	NO DATA	NR at 70°	NO DATA	AB @ 70°	A to 70°	A	NO DATA	NO DATA	NO DATA
Naptha (Coal Tar)	(8030-30-6)	A to 140° AB to 200°	A 100% A 96% to 170° A 60% to 70°	A	A	A	A to 140° C @ 180°	NR	A	A	A to 70°	NR	B @ 70°	NO DATA	A	NR	A	AB to 250°	C/NR @ 70°	NR
Naptha (Heavy Aromatic Naptha Solvent) (Hans Solvent, Aromatic 100, Solvent Naptha)	(64742-94-5) (64742-95-6)	A to 140° AB to 200°	A 100% A 96% to 170° A 60% to 70°	A	A	A	AB @ 70 - 150° C/NR @ 150 - 180°	BC @ 70° B/NR @ 120°	A	A	A to 70°	B/NR @ 70°	AB to 140°	A to 70°	A	NR	A	AB to 250°	C/NR @ 70°	NR
Napthalene (Coal Tar Distillate)	C10H8 (91-20-3)	A to 130° B @ 180°	A to 70°	A	A	A	B @ 70° BC @ 70-140° NR @ 170°	B @ 70° (short duration) NR @ 70° (1 year)	A	A	A to 70° AB @ 140°	NR	C @ 70°	NO DATA	A to 176°	NR	A	NR	BC @ 70°	NR
Nitric Acid (Hydrogen Nitrate)	HNO3 (7697-37-2)	A to 99% to 130° A to 50% to 140° AB @ 10% to 185° A to 70°	A to 100% to 120° A to 60% to 175° A to 50% to boiling A	A to 30% to 100° AB to 40% to 80° NR 50-100% @ 70° A to 175°	A to 30% to 70° A to 10% to 212° NR 50% @ 70° A to 140°	A (PTFE Encapsulated 316 Stainless St.)	A to 50% to 104° A to 30% to 180° A to 10% to 210° B/NR to 104°	A to 30% to 140° AB at 50% to 70° BC 50-70% @ 70° AB to 70°	A to 98% to 70° A to 90% to 140° A to 30% to 212°	A	NR	B 5-20% @ 70° NR @ 50%	A to 5% to 140° A to 40% to 70° B at 10% at 140°	A to 20% to 70° AB at 20-50% to 70° B to 10% at 120°	A 50% to 140° A 90-100% to 158° AC 60-70% to 70° A to 140°	A to 25% to 70° A to 10% to 104° B 25-30% to 140° NR	A	NR 0-100% at 70°	A to 10% to 70° B 20% @ 70° C 50-70% @ 70°	B Dilute @ 70° NR @ 70° (Fuming)
Oil, Corn	NA	A	A	AB to 70° NR @ 120°	AB to 70° (SEA) NR (Crude & Diesel)	A to 70°	NR	A	A	A to 158°	B @ 70°	A	A to 70°	A to 158°	NR	A	A	NR	NR	
OILS/LUBRICANTS, General	NA	A	A	AB to 70° NR @ 120°	AB to 70° (SEA) NR (Crude & Diesel)	A to 70°	NR	A	A	A to 158°	B @ 70°	A	A to 70°	A to 158°	NR	A	A	NR	NR	
Oil, Mineral	NA	A	A to 150°	A to 100° C/NR @ 140-160	C @ 70° NR @ 100°	A	A to 100° C/NR @ 140°	A to 140°	A	A to 140°	A to 70°	A to 200°	A to 70° B @ 120°-200°	A to 70°	NR	A	A	B/NR @ 70°	B @ 70°	
Oil, Olive	NA	A to 70°	A	A 100% to 176°	AB to 70°	A	B @ 70°	A to 150°	A	A to 150°	A to 70°	A to 73°	A to 150°	A to 176°	B @ 70°	A to 70°	A	B @ 70°	C @ 70° NR @ 250°	

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(Updated 08/10/2011)

INTERPRETATION OF TEST DATA (In 30 days to 1 year of exposure). Includes Swelling, Loss of Tensile Strength, and Description of Chemical Attack.

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Main Compatibility Table with columns for CHEMICAL (Name, Formula, CAS #), SPRING Materials (Hastelloy C, 316 SS, PPS, PEEK, PTFE), COUPLING Materials (Polypropylene, HDPE, PVDF, PTFE/PFA, Acetal/POM, ABS, Polysulfone, Polycarbonate), and SEAL Materials (FKM, EPDM, FFKM, Buna, TPO, Silicone).



CHEMICAL COMPATIBILITY TABLE

For ChemQuik®, DrumQuik®, DrumQuik PRO & Other Common Colder Series Coupling Materials

(Updated 08/10/2011)

CHEMICAL		INTERPRETATION OF TEST DATA (In 30 days to 1 year of exposure)														
		Swelling					Loss of Tensile Strength					Description of Chemical Attack				
		Linear (Plastics)	Volumetric (Elastomers)	(Plastics)	(Elastomers)											
A	< 10%	<= 15%	< 15%	<=15%	Excellent, little or no swelling, softening or surface deterioration											
B	< 15%	<= 30%	< 30%	<= 30%	Good chemical resistance, minor swelling, softening or deterioration											
C	< 20%	<= 50%	< 50%	<= 60%	Limited chemical resistance, moderate attack, conditional service											
NR	> 20%	> 50%	> 50%	> 60%	Severe attack, not recommended for use											

NOTE: All temperatures are in degrees Fahrenheit. Conversion: °C = (°F - 32)/1.8

CHEMICAL		SPRING Materials					COUPLING Materials					SEAL Materials								
Name	Formula (CAS #)	Hastelloy C (276)	316 SS	PPS	PEEK™	PTFE Encapsulated 316SS (TESS)	Polypropylene	HDPE	PVDF	PTFE/PFA	Acetal/POM (Celcon)	ABS	Polysulfone	Polycarbonate	FKM (Viton®)	EPDM	FFKM (Chemraz® / Simriz®)	Buna	TPO (Santoprene)	Silicone
Tetrachloroethylene (PERC/PERK)	C2CH4 (127-18-4)	A	A	AB @ 100%	A	A	NR 100% @ 70° B Low Conc. @ 70°	NR 100% @ 70° B 10% @ 70° ** (OK Fluorinated/TEST)	A to 100% to 176°	A	A to 70° AB 70°-140°	NR	NR	NR	A	NR	A	NR @ 70°	NR	NR
Tetra Ethyl Ortho Silicate (TEOS, tetraethoxysilane)	Si(OC2H5)4 (78-10-4) (9044-80-8)	A to 212°	A to 212°	NO DATA	A	A to 212°	A to 100°	A to 100°	NO DATA	NO DATA	NO DATA	NO DATA	NO DATA	NO DATA	A to 70°	A to 125°	A to 125°	NR	NO DATA	NO DATA
Tetrahydrofuran (Tetramethylene Oxide) (THF)	C4H8O (109-99-9)	A to 200°	A to 200°	A 100% to 140° C 100% @ 200°	A to 70°	A	BC @ 70° C/NR @ 100-120° NR @ 140°	NR at 70°	C 10-100% @ 70° NR @ 120°	A	A to 70°	NR	NR at 200°	NR at 70°	NR	A	A	NR at 70°	B @ 70°	NR
Tetra Methyl Ammonium Hydroxide (TMAH)	C4H13NO (75-59-2) (93615-68-0)	NO DATA	NO DATA	NO DATA	A	A to 100% to 500°	A to 150°	AB	*** A/NR	A to 100% to 500°	NO DATA	NO DATA	NO DATA	NO DATA	HIFLUOR A to 70° NR	A to 70°	A	NR	NO DATA	B @ 70° C @ 70° (Dynamic)
Thionyl Chloride (Sulfinyl Chloride) (Sulforous Chloride)	Cl2OS (7719-09-7)	NO DATA	NR	NO DATA	A to 70°	A	B/NR 10 - 100% @ 70°	NR	NR	A	AC at 70°	NO DATA	NR at 70°	NR at 70°	HIFLUOR A to 70° AB to 70°	NR	A	NR at 70°	B @ 70°	NR
Toluene (Toluol)	C7H8 (108-88-3)	A to 212°	A @ 100% to 212°	A to 100°	A to 75°	A	NR	NR	A to 140° AB @ 176° BC 176-212°	A	A to 70° AB at 140° C at 180°	NR	NR at 70°	NR at 70°	A to 100° BC to 200°	NR	A	NR 30-100% at 70°	NR	NR
Trichloroacetic Acid (TCA)	C2HCl3 (76-03-9)	A @ 100% to boiling AB to 100% to boil.	NR	A to 200°	A to 68° (Fluoroware)	A	A to 140° AB @ 150°	A to 10% to 140° AC at 70-150°	A to 75° A to 65% to 212°	A	NR at 70°	NO DATA	B at 70-122°	A to 20% to 70° C/NR 100% at 70° NR at 100% at 122°	NR	B at 70°	A	NR at 70°	BC @ 70°	NR
Trichloroethylene (Ethylene Trichloride) (Triad)	C2HCl3 (79-01-6)	B @ 90% to 212° A @ 100% to 212°	A @ 90% to 212° A @ 100 to 140°	AC 70-100° NR @ 200°	A to 212°	A	NR	NR	AB 104-125° A to 189° (blackens)	A	AB at 70-180°	NR	NR at 70°	NR at 70°	HIFLUOR A to 70° A to 200°	B	A	NR at 70°	NR	NR
Triethylamine (Triethyle Amine)	C6H15N (121-44-8)	NO DATA	A	NO DATA	A to 130° NR > 150°	A	NR	NR	A to 70° C @ 120°	A	A to 70°	NO DATA	NO DATA	NO DATA	NR	A	A	A to 140°	B @ 70°	NR
Triethylene Glycol (TEG, Trigen, Triglycol)	C6H14O4 (676-18-6)	A	A to 200°	A	NO DATA	A	A to 125°	A to 140°	A to 125° C @ 170°	A	NO DATA	NO DATA	A to 120°	A to 70° B @ 125°	HIFLUOR A to 70° A to 70°	A to 70°	A	A to 70°	NO DATA	B @ 70°
Triethanolamine (TEA)	C6H15NO3 (102-71-6)	A 100 to 200°	AB to 100% to 75° A 1% & 100% to 200°	A 100% to 200°	A to 70°	A	AB @ 100% 70-185°	AB to 70° NR @ 120°	AB to 100% to 125°	A	NR	AB to 70°	NR	NO DATA	NR	A to 160°	A	B to 100°	A to 70°	NR
Trifluoroacetic Acid (Perfluoric acid, Perfluoroacetic acid) (TFA)	C2HF3O2 (76-05-1)	B	A	NO DATA	NO DATA	A	C @ 70°	B	A to 125°	A	NO DATA	NO DATA	C/NR	NR	HIFLUOR A to 70° C @ 70°	A	B	C @ 70°	NO DATA	B @ 70° C @ 70° (Dynamic)
Trimethylbenzene (Pseudocumene)	C9H12 (95-63-6)	NO DATA	NO DATA	NO DATA	A	NO DATA	NO DATA	NO DATA	NO DATA	NO DATA	NO DATA	NO DATA	NO DATA	NO DATA	A to 70°	NR	A	B @ 70° C @ 70° (dynamic)	NO DATA	NO DATA
Urea (AdBlue, AUS32, Aqueous Urea Sol. 32.5%) (DEF, Diesel Exhaust Fluid, BlueTec)	CH4N2O (57-13-6)	A to 130° AB to 200°	A to 200°	A to 200°	A to 212°	A	A to 100% to 180°	A to 100% to 150°	A to 100% to 250°	A	A to 100% to 70°	B @ 70°	C @ 70°	NR	A to 70° AB to 200°	A to 70° AB to 200°	A	AB to 150°	NO DATA	AB to 70°
Xylene (Xylol)	C8H10 (1330-20-7)	A	A 75-100% A @ 50% to 220°	A to 200°	A to 70°	A	C @ 70-140° NR @ 150°	NR at 70°	A to 175° A to 100% to 175°	A	A to 140° AB at 180°	NR	NR at 100% at 70°	NR at 70°	A to 140°	NR	A	NR at 70°	NO DATA	NR @ 70°

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NOTES:
* PVDF may discolor after prolonged exposure in Potassium Hydroxide.
* Polypropylene may discolor after prolonged exposure in Sulfuric Acid.
** Fluorination of HDPE has been shown to dramatically improve the chemical resistance of HDPE material with certain chemicals. Samples are available to allow customers to evaluate in their specific application. Contact CPC Inside Sales for assistance.
HIFLUOR® Fluorinated FKM will often be compatible in applications where standard FKM is "NR". It bridges the price gap between FKM & FFKM perfluoroelastomers and is available only by special order (minimums may apply). Contact CPC Inside Sales for assistance.

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