

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

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. The table is to be used as a general guide only. Colder Products Company is not responsible for the accuracy of this data and assumes no obligation of liability in connection with its use. Therefore, CPC insists that all customers test and evaluate the suitability for use of CPC couplings in their particular application before using the couplings!

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
Acetaldehyde (Acetic Aldehyde, Acetic Ethanol)	C2H4O (75-07-0)	A @ 100% to 140° AB @ 100% to 200°	A to 212°	A 40-100%	A 40-100%	A	AB to 40% to 140° BC @ 100% to 70-130° NR @ 100% to 140°	C 40-100% @ 70° C/NR 120-140° ** (OK Fluorinated/TEST)	AB to 40%	A	A 40-100% to 70° AB to 180°	NR	NR 40-100% @ 70°	NR	B @ 40% 70-104° C @ 40% to 140° HIFLUOR AB to 70°	A to 104° AB to 200°	(Chemraz White) NR (Simriz) AB (Kalrez 4079) A	NR	AB to 70°	AB to 70°
Acetamide (N-Acetyl Cysteamine) (Ethanethiol)	C4H9NOS (1190-73-4)	A 100% to 70° A 98% to 135° A 50% to 200°	A to 140° C 100% @ 150°	A to 200°	A @ 50% to 70°	A	A to 125° AB to 150°	A to 122°	A to 75° AB to 200°	A	B @ 70°	NO DATA	NR	NR	A to 140° AB to 200°	A	A to 70° AB to 180°	A to 70°	BC @ 70° NR @ 70° (Dynamic)	
Acetic Acid (Glacial (99.8% Pure), Vinegar (4-18%)) (Ethanoic Acid)	C2H4O2 (64-19-7)	A to 212°	A to 212°	A	A	(PTFE Encapsulated 316 Stainless St.)	A to 140° AB 50-100% to 160° AB to 80% to 180°	AB to 100% to 70° AB 60% to 180°	A to 122° A to 10% to 225° AB to 50%, 150-200°	A	A to 5% to 70° BC 10% @ 70°	AB 10% to 70° C 20% @ 70°	A to 100% to 70° A to 20% to 140°	A to 50% to 70° B to 20% to 185°	A to 70° AB to 200°	A	A to 70° B to 30% to 70° C to 30% to 185° C at 80% to 70°	A to 30% to 70°	A to 30% to 70°	
Acetic Anhydride (Acetyl Oxide)	C4H6O3 (108-24-7)	A	A to 40% to 165° A 40-100% to 300°	A to 200°	A	(PTFE Encapsulated 316 Stainless St.)	AB to 130° NR @ 140°	B/NR 100% 70-180° NR @ 122°	NR @ 70°	A	NR at 70°	NR 50-100% @ 70° NR @ 122°	NR at 70°	NR at 70°	B to 200°	A	NR 50% @ 100° NR 100% @ 70°	A to 70° C at 100% to 70° NR 25-50% at 70°	A to 70°	C @ 70° NR @ 70° (Dynamic)
Acetone (Dimethyl Keytone)	CH3COCH3 (67-64-1)	A	A to 212°	A to 200°	A to 212°	(PTFE Encapsulated 316 Stainless St.)	A to 230°	C at 70° ** (OK Fluorinated/TEST)	A to 10% to 122° AB 50% to 77°	A	A at 5% to 140° B at 70°	B 10% @ 70°	A to 20% to 70° NR at 100% at 70°	A to 70° NR 10-100% at 70°	A to 200°	A	125% vol 3 days 70° NR any conc at 70°	AB to 70°	C @ 70°	
Acetonitrile (Methyl Cyanide)	CH3CN (75-05-8)	B @ 70°	A @ 100% to 100° NR 4% @ 192°	A to 200°	A to 70°	(PTFE Encapsulated 316 Stainless St.)	AB to 75° NR @ 122°	A to 122°	A to 125° B @ 150° NR @ 180°	A	NR at 70°	NO DATA	NR at 70°	NR at 70°	A	A	C at 70°	NR	NO DATA	
Acrylic Acid (Acrylic Polymer)	C3H4O2 (9063-87-0)	A 19%	A to 122° A 45% to 150° A 30% to 250°	NO DATA	A to 212°	A	A 100% to 70° AB 100% 100-250°	AB to 70° C @ 122° ** (OK Fluorinated/TEST)	A to 100% to 280° A 100% to 280°	A	NR	NR	B @ 70-122°	A to 20% to 70° NR 100% @ 70°	NR	NR	NR	NO DATA	NO DATA	
Aluminum Sulfate (Aluminum Salt)	Al2O12S3 (10043-01-3)	A to 165°	A to 50% to 212° AB 50-100%	A to 100% to boiling	A to 212°	A	A to 100% to 160° A to 10% to boiling AB 100% at 250°	A to 160°	A to 100% to 280° A 10% to boiling	A	A to 10% to 70° AB to 100% to 180°	A to 70° AB to 120°	A to 100% to 200° A to 10% to boiling	A to 100% to 200°	A to 100% to 176° A to 10% to boiling	A to 176° AB to 200°	A to 70° AB any conc to 180°	A to 70°	A to 70°	
Amines (General)	NA	A to 85% to 160° AB to 200°	A	A to 70°	A to 70°	A	AB to 120°	NR	NR	A	NR at 70°	NO DATA	NO DATA	NR at 70°	NR	AB to AC	A	NR at 70°	A to 70°	BC @ 70°
Ammonia (Anhydrous Liquid)	NH3 (7664-41-7)	A @ 100% to 140°	A to 40% to 165° A 40-100% to 212°	A to 200°	A	(PTFE Encapsulated 316 Stainless St.)	A to 100% to 212°	A to 140°	A	A	NR at 70°	B @ 70°	C at 70°	NR at 70°	NR	A to 140°	A (Black 550) AB (White 571 & 592)	A to 104° B to 140° NR at 200°	A	BC 70-140° C @ 240°
Ammonia (Aqueous) (Ammonium Hydrate) (see also Ammonium Hydroxide)	NH3 (7664-41-7)	A to 100% to 70° AB to 100% to 200°	A to 100% to 70° AB to 212°	A to 30% to 70° A to 10% to 200°	AB	(PTFE Encapsulated 316 Stainless St.)	A to 185°	BC to 30% to 120° NR to 30% at 140°	A	A	A/NR 10-30% to 120°	B @ 70°	AB to 30% to 200°	NR 70-150°	AB 30% to 70° C 10% @ 104° HIFLUOR AB to 70°	A to 100% to 212°	A	A to 38% to 200°	A to 70°	A to 70° C @ 70° (Dynamic)
Ammonium Acetate	C2H7NO2 (631-61-8)	A @ 19%	A to 100% to 150°	NO DATA	A	A	A to 102° AB to 180°	A to 122°	A to 100% to 175°	A	A to 70°	NO DATA	A sat'd to 122°	A sat'd to 122°	A to 140° B at 212°	A	A to 140° B at 176°	A to 70° B at 176°	A to 70°	AB to 70° C @ 70° (Dynamic)
Ammonium Bifluoride (Ammonium Hydrogen Fluoride)	F2H5N (1341-49-7)	A 10% to 70° B 50-100%	B/NR 6-10% @ 70-250° B45% C 35% @ 70°	NR	A	A	A to 225°	NO DATA	A	A	NR	A to 120°	NO DATA	NO DATA	A to 100% to 140°	A to 140° B 212°	A	AB to 140° B 180-212°	A to 100% to 70°	NO DATA
Ammonium Fluoride	NH4F (12125-01-8)	A to 25% to 175° A 45% to 260°	AB to 10% to 212° NR > 10%	NR	A	(PTFE Encapsulated 316 Stainless St.)	A	AC 25-100% to 120° A to 25% to 160°	A	A	NO DATA	NO DATA	NO DATA	NR at 70°	A to 140°	A to 140°	A	AB any conc to 104°	NO DATA	A to 70°
Ammonium Hydroxide (Ammonia, Aqueous)	NH4OH (1336-21-6)	A to 47% to 70° A @ 100% to 150° AB @ 100% to 200°	A to 100% to 70° A @ 100% to 150°	A to 200°	A to 212°	(PTFE Encapsulated 316 Stainless St.)	A to 225°	AB to 100% to 140°	A to 200°	A	AB to 100% to 140°	B @ 70°	A to 100% to 200°	BC 5% at 70° NR 10-100% 70° NR 5% at 120°	A46% to 70° AB to 70° B 104-140°	A to 160° AB to 200°	A	A to 38% to 200° A/NR conc to 140°	A to 70°	A to 70°
Ammonium Sulfate (Dolamin)	(NH4)2SO4 (7783-20-2)	A to 10% to boiling A sat. to 130° AB sat. to 200°	A to 37% to 221° AB 38-80% to 150° A sat'd to boiling	A to 200°	A	(PTFE Encapsulated 316 Stainless St.)	A 10% to 100°	A to 100% to 70° AB to 100% 120-180°	A	A to 400°	B 100% 70-140° AB fertilizer to 70° AB to 5% to 70°	A to 70° AB @ 120°	A to 100% to 200° A to sat'd to boiling	A to 70° NR 10-100% boiling	A to 70°	A any con to 200°	A to 70°	A to 70°	A to 70°	
Amyl Alcohol	C5H12O (71-41-0)	A to 200°	A to 200°	A to 200°	A to 70°	A	A to 180°	A to 70°	A to 250°	A	A to 140°	B @ 70°	A to 200°	AB to 70°	A to 100% to 200° AB to 300°	A	A to 100% to 140° AB to 100% to 180°	A to 100% to 70°	NR	
Aqua Regia (NitroHydrochloric Acid)	HCL-HNO3 (8007-56-5)	NR (Titanium: A to 70°) (Tantalum: A)	NR	NR	NR	(PTFE Encapsulated 316 Stainless St.)	C at 70 - 104°	NR	A to 100° AB to 178° B at 212°	A	NR at 70°	NR	NR at 70°	NR at 70°	B to 185°	NR at 140°	AB to 70° (Black 550)			C/NR @ 70°
Benzene (Mineral Naphtha) (Benzol)	C6H6 (71-43-2)	AB @ 100% to 140° B to 100% to Boiling	A to 20% to 217° AB 20-100% to 200°	A to 100°	A to 212°	A	AB to 10% to 70° AB dilute to 140°	A to 10% to 70° C/NR at 100% at 70° NR at 122°	A to 100% at 120-140° B at 100% at 120-140° at 100% at 140-158°	A to 500°	A to 140°	NR	NR at 70°	NR at 70°	B to 158°	NR at 70°	A to 70°	NR at 70°	NR	NR at 70°
Benzene Sulfonic Acid	C18H30O3S (68584-22-5)	B to 212°	AB to 40% to 212° A 40-60% to 275° A 45-100% to 70°	A to 200°	A/NR @ 70°	A	AB to 100° AB to 10% to 180°	A to 120° A to 10% to 140°	A to 150°	A	C @ 70°	NO DATA	NR	NR	A	NR 10-100% @ 70°	A to 70°	NR 10-100% @ 70°	A to 70°	NR 10-100% @ 70°
Benzoic Acid (Carboxybenzene) (Benzymethonic acid)	C7H6O2 (65-85-0)	A to 100% to 70° AB to 100% 70-200° C 50% @ 212°	A to 100% to 70° B to 100% to 212°	A to 200°	A	A	A to 140° AB to 180°	A to 180°	A	A	AB @ 70 C/NR @ 140°	B @ 70°	C 10-100% @ 70° NR 10-100% @ 200°	A @ 70° B 10-100% @ 120° NR 100% @ 200°	A to 70°	B/NR @ 70° NR @ 140°	A to 70°	NR	A to 70°	C/NR @ 70°
BOE (Buffered Oxide Etch) (30-50% Ammonium Fluoride, 0.5-10% HF)	N/A	A 45% to 260°	NR	NR	NR	(PTFE Encapsulated 316 Stainless St.)	A	AC 25-100% to 120° ** (OK Fluorinated/TEST)	A	A	NO DATA	NO DATA	NO DATA	NO DATA	A to 140°	AB	A	AB any conc to 104°	NO DATA	NR
Boric Acid (Orthoboric Acid, Hydrogen Orthoborate)	BH3O3 (10043-35-3)	A	A to 140° AB > 140°	A to 200°	A to 212°	A	A	A to 150°	A to 175°	A	A to 5% to 70°	A to 70°	A to 200°	A to 125°	A to 185° B > 185°	A to 176° AB > 176°	A	A to 140° AB 140-200°	A to 70°	A to 70°
Butyl Acetate (N-Butyl Acetate)	C6H12O2 (123-86-4)	A	A	A to 200°	A to 70°	A to 500°	NR	AC at 70° BC at 120°	A to 70° AB at 80-100° C at 104-120°	A to 500°	AB to 70°	NO DATA	NR at 70°	NR at 70°	NR at 70° Viton ETP, "B" HIFLUOR A to 70°	B at 70°	A	NR at 70°	BC @ 70°	NR at 70°
Butyl Alcohol (N-Butanol)	C4H10O (71-36-3)	A	A	A to 200°	A to 70°	A	AB to 100% to 180°	A to 150°	AB to 120° NR @ 150°	A	A to 70° AB to 140°	NR	A to 200 (No Stress) B @ 70° < 1 KSI	A to 200° (No Stress) AB to 70°	AB to 100°	A	A to 100% to 140° AB to 190°	B @ 70°	B @ 70° (Static) C @ 70° (Dynamic)	
Butyric Acid (Butanoic Acid)	C4H8O2 (107-92-6)	A to 212°	A to 25% to 150° AB 25-100% to 200° B 5-25% 150-212°	A to 200°	A to 70°	A	A to 150°	C to 80° @ 70° C/NR 80-100° ** (OK Fluorinated/TEST)	AB	A	B/NR 1-100% @ 70°	NR	B @ 70-120°	NR	BC 20-100% @ 70°	C @ 70° (Dynamic) B to 140° (Static)	A to 70°	AB to 20% to 70° NR 30-100%	A to 70°	NR
Calcium Carbonate (Aglime)	CaCO3 (471-34-1)	B to 100% to Boiling	A Dilute to 120° AB @ 100%	A to 150°	A to 70°	A to 500°	A to 248°	A to 160°	A to 258° AB to 285°	A to 500°	A to 10% to 150° AB to 180°	NO DATA	NO DATA	C at 70-150°	A to 140°	A to 70°	A to 200°	A to 70°	A to 70°	A to 100% to 70°
Caprylic Acid (Octanoic Acid)	C8H16O2 (124-07-2)	NO DATA	NO DATA	NO DATA	A	A	A to 125° BC @ 250°	BC @ 70 - 150°	A to 158° B/NR 175-285°	A	NO DATA	NO DATA	NO DATA	NO DATA	AB to 140°	NO DATA	A	C @ 70°	NO DATA	NO DATA

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(Updated 08/10/2011)

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 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%	

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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® / 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	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	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	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 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	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	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°	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	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 122°	A to 70° AB to 140°	NR	NR at 70°	NR at 70°	NR at 70°	BC at 70°	AB at 70°	NR at 70°	NR	NR at 70°	
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 @ 104-122° NR @ 160°	A to 70° AB to 140°	NR	AB to 185° NR @ 200°	NR	BC 70-104° (static) NR (dynamic) A Viton ETP	AB (static) C (dynamic)	A	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	NO DATA	NO DATA	HIFLUOR A to 70° B @ 70°	NR	NR	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	A	NR at 70°	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 to 150°	NO DATA	A to 200°	A to 200°	A (Low sulfur & #2) A (#2 & Ethanol) B (#2 & Methanol) A	NR	A	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 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	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 to 70°	NO DATA	NR	NR	HIFLUOR B to 70°	NR	A	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	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	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 to 70°	NR	A @ 100% to 70°	NR	HIFLUOR A to 70°	B 70-200° (static) C @ 70° (dynamic)	A	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 to 70°	NO DATA	B @ 70-122°	B @ 70° C @ 122°	A to 70°	A to 70°	A	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°	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	NO DATA	A to 70°	A to 200°	NO DATA	A to 70° AB to 200°	A to 70° AB to 200°	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 to 70°	NR	NR at 70°	NR at 70°	NR	NR	A	NR at 70°	NR	NR	

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)					
	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

WARNING:
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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))	C4H100 (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	C5H1002 (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° ** (OK Fluorinated/TEST) B @ 70°	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) A to 140°	NR	A	AB to 120°	NR	NR	NR	NR	A to 200°	A	A to 200°	NR	NR
Lactic Acid	C3H603 (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° B 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° ** (OK Fluorinated/TEST) NR @ 70°	A to 122°	NR @ 70°	NO DATA	C @ 70 - 122°	C @ 70 - 122°	A to 140°	NO DATA	NO DATA	A to 140°	NO DATA	C @ 70°	NR @ 70°
Methane Sulfonic Acid (MSA) (Alkane Sulfonic Acid)	CH403S (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)	C5H1202 (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)	C3H802 (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)	C4H602 (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 to 100% to 70° C at 100% at 120° NR at 100% at 200° NR at 100% at 70°	AB at 50% to 70° B at 70° C at 122°	NR	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 100% at 70°	HIFLUOR A to 70° B @ 70°	BC to 130°	A	NR at 70°	NR @ 70°	NR
Methyl Ethyl Ketone (MEK)	C4H80 (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%))	H202 C2H403 C2H402	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) ** (OK Fluorinated/TEST)	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 to 30% to 100° AB to 40% to 80° NR 50-100% @ 70°	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°	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°	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 to 70°	A	A to 175°	A to 100% to 70°	A	A to 140°	B/NR to 104°	A	A	AB to 70°	A to 70°	A to 70°	A to 150°	A	AB any conc to 150°	A	A to 212°	A to 200°	
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	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	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	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°

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)					
	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

WARNING:

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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
Oil, Vegetable	NA	A	A	A to 140° AB @ 160°	AC @ 70°	A	AC	A to 70°				C @ 70°			A to 200°	AC to 200°	A	A to 200°	BC @ 70°	AB to 70° B @ 200°
Oxalic Acid (Ethanedioc Acid)	C2H2O4 (144-62-7)	A to 100% to 140° A to 50% to Boil B 60-100% to Boil A@2% to 140°	A to 50% to 100° A 20-50 to 125° B 60-90% @ 70°	A	A	A (PTFE Encapsulated 316 Stainless St.)	A to 100% to 140° A to 50% to 180°	A to 100% to 160° AB to 100% to 180° NR at 100% at 212°	A to 100% to 125° A to 60% to 212° B @ 100% @ 158°	A	C at 5% at 70-150° C at 10% at 70°	A to 70°	A to 100% to 70° AB at 5% to 180°	A to 10% to 70° B at 70°	A to 100% to 140° A to 50% to 176°	A	A	AB to 100% to 140° NR 10% boiling	A to 70°	B to 70-250° C @ 70° (Dynamic)
Ozone (trioxygen)	O3 (10028-15-6)		A to 70° A@2% to 140°	NO DATA	A to 212°	A (PTFE Encapsulated 316 Stainless St.)	NR	AB weak conc. At 70° C sat'd in H2O at 70° NR at 2-100% at 105° C/NR @ 70°	A	NR	B @ 70°	A to 122°	AB 10 ppm in H2O at 70° NR 1-100% at 70°	A to sat. to 70° NR sat @ 140°	A to sat. to 70° NR sat. @ 140	A (White 571 & 592) AB (Black 550)	NR 2% to sat'd at 70°	A to 70°	A	
Paraffin	NA	A	A	A to 70°	A to 212°	A	A to 140°	** (OK Fluorinated/TEST)	A	A to 70°	AB	NO DATA	A to 70°	A to 400°	NR sat. @ 140	A to 70°	A to 250°	A to 70°	B to 250° C @ 70° (Emulsions)	
Pelargonic Acid (Nonanoic Acid)	C9H18O2 (112-05-0)	NO DATA	AB	AB	A	A	AB to 100°	AB	AB to 100°	A	NO DATA	NO DATA	NO DATA	B to 70° Viton ETP A to 70° HI FLOUR A to 70°	NO DATA	A to 70°	A to 70°	NO DATA	NO DATA	
Peracetic Acid (Peroxyacetic Acid, POAA)	C2H4O3 (79-21-0)	A	A	A	A	A	AC 40% @ 70°	AC/NR (Embrittles over time)	AB to 40% to 70°	A	NR	NO DATA	NO DATA	NR	A to 1% @ 70° C @ 100% @ 70° HIFLUOR A to 70°	A to 70°	C 100% @ 70° NR 1-10% @ 70°	NO DATA	B 100% @ 70° NR 1-10% @ 70°	
Phenol (Carbolic Acid)	C6H6O (108-95-2)	A	A	A to 100° C @ 100% @ 200°	A Dilute to 70° NR 75-100% @ 70° Dissolves @ 75%	A	A to 104° AB to 130°	A to 5% to 70° AB 70-85% @ 70° NR 90-100% @ 70°	A to 100% to 158°	A	NR	NR	A to 5% to 70° NR 100% @ 70°	A to 5% to 70°	A to 140°	NR 5 - 100%	A	A/NR @ 70°	NR	
Phosphoric Acid	H3PO4 (7664-38-2)	A to 200° A to 50% to boiling	A to 40% to 240° A to 70% to 150°	A	A to 212°	A (PTFE Encapsulated 316 Stainless St.)	A to 185° A to 75% to 225°	A to 100% to 140° A to 75% to 160° AB to 90% at 160-180°	A	C at 0.3-10% at 70° NR at 10-100% at 70°	AB to 40% to 70° B 40% @ 70° C 50-100% @ 70°	A to 100% to 200° A to 85% to 250° NR at 85% at 300°	A to 100% to 70° A to 25% to 158° B at 85% at 120°	A to 140° A to 85% to 176° A 75% to 212°	A to 130° A to 85% to 176° B to 30% to 212°	A	A to 10% to 104° AB to 50% to 104° AB 30% to 104°	A to 45% @ 70° B 45 @ 70° C 50-100% @ 70	NR	
Phosphorous Oxchloride (Phosphoryl Chloride)	CL3OP (10025-87-3)	NO DATA	B (Dilute) @ 300° NR @ 100% to 160°	NO DATA	A to 212°	A	NR	NR	A to 122°	A	NO DATA	NO DATA	NO DATA	A to 70°	NR	A	NR	NO DATA	NO DATA	
Phosphorous Trichloride (PICI)	CL3P (7719-12-2)	A	A to 120°	A to 100% to 200°	A	A	B/NR @ 70°	A to 100% to 150°	A	AB to 180°	NR	NO DATA	NR	A to 70°	A to 70°	A	NR	NO DATA	NO DATA	
Piranha (3:1 Mixture of Concentrated Sulfuric Acid & 30% Hydrogen Peroxide) Plating Solution, General	N/A	A to 70°	A to 140°	A to 70°	Generally OK (Etching Solution may affect, test)	A	A	A to 75% to 70° BC 96-98% @ 70-120° ** (OK Fluorinated/TEST)	A to 98% to 120°	A	NR	NR	NR	A	NR	A	NR	A	NR	
Plating Solution, Cadmium	N/A	A to 90°, Cyanide A/NR @ 100°, Fluob.	A to 140°	A to 70°	Generally OK (Etching Solution may affect, test)	A	A	A to 140°	A	A to 90, Cyanide C @ 100°, Fluoborate	NO DATA	NO DATA	NO DATA	A to 140°	A to 70°	A	A to 140°	NO DATA	NR	
Plating Solution, Chrome	N/A	A to 130°, Fluoride NR @ 90°, Barrel NR @ 115°, Black	A to 70° NR @ 95°, Barrel	A to 70°	Generally OK (Etching Solution may affect, test)	A	AC to 70° C @ 95° (Barrel)	A	A	B/NR @ 70°	C/NR @ 70°	NO DATA	A to 70°	A to 140°	A to 70°	A	NR	NO DATA	NR	
Plating Solution, Copper	N/A	A to 120°	A to 70°, Barrel A to 120°, Copper A to 120°, Cyanide	A to 70°	Generally OK (Etching Solution may affect, test)	A	A	A	A	NR, Electroless A to 120°, Strike A to 70° Sulfate	NO DATA	NO DATA	NO DATA	A to 200°	A to 140°	A	A to 140°	NO DATA	NR	
Plating Solution, Nickel	N/A	A to 140°	A to 70° A, Cyanide C @ 70°, Sulfamate	A to 70°	Generally OK (Etching Solution may affect, test)	A	A	A	A	NO DATA	NO DATA	NO DATA	NO DATA	A to 70°	A to 140°	A	A to 140° NR @ 70°, Electroless	NO DATA	NR	
Plating Solution, Tin	N/A	A to 125°	A to 70° C 100-125°, Fluoborate	A to 70°	Generally OK (Etching Solution may affect, test)	A	A	A to 180°	A	NO DATA	NO DATA	NO DATA	NO DATA	A to 140°	A to 104° B @ 140°	A	AB to 140°	NO DATA	NO DATA	
Plating Solution, Zinc	N/A	A to 70°, Alk-Cyanide A to 150°, Cyanide NR @ 140°, Chloride	A to 70°, Cyanide A to 70°, Fluoborate NR, Acid	A to 70°	Generally OK (Etching Solution may affect, test)	A	A	A to 150°	A	NO DATA	NO DATA	NO DATA	NO DATA	A to 140°	A to 70°	A	A to 140°	NO DATA	NO DATA	
Polyethylene Glycol (PEG, Carbowax)	C2H6O2 (71767-64-1)	A	A (Short Term) B (Long Term)	NO DATA	A	A	A to 140° AB to 180°	AB to 70°	A to 250°	A	A to 70° Sulfate	NO DATA	NO DATA	A to 70°	A to 176°	A	A to 70° C @ 70° (dynamic)	NO DATA	NO DATA	
Potassium Borate (Potassium Metaborate)	BKO2 (20786-60-1)	NO DATA	NO DATA	NO DATA	A	A	A to 180°	A to 150°	A	A	NO DATA	NO DATA	A to 70°	NO DATA	A to 100% @ 212°	A (Aqueous Sol'n to 70°)	AB 70-140° NR @ 176°	NO DATA	NO DATA	
Potassium Carbonate (Carbonic Acid) (Potash)	CK2O3 (584-08-7)	A to 90% to 212° AB @ 100% to 140°	A to 17% to 240° AB 20- 100% to boil	A to 100% to 200°	A at 60-100% to 70°	A to 100% to 500°	A to 225°	A to 160° AB at 180°	A to 100% to 275° AB to 100% at 285°	A to 100% to 500°	A to 60-100% to 180°	A to 70°	A to 200°	A to 5% to 70° NR at 70°	A to 212°	A to 176° AB to 200°	Aqueous sol'n to 70°	A to 200° A to 180°	A to 70° C @ 70° (dynamic)	
Potassium Chlorate (Chloric Acid) (Potassium Salt)	CLKO3 (3811-04-9)	B 30-60% 125-212° B to 60% @ 212° AB @ 100%	A	A	A	A	A to 100% to 180°	A to 100% to 160°	A	A	A to 10% to 70° AB to 100% to 180°	NR	A to 100% to 200°	A to 70°	A to 140° AB to 200°	A	A to 130° AB to 140-200°	A to 70° AC to 130°	A to 70° AB to 125° NR (Dynamic)	
Potassium Chloride (Salt Substitute)	CLK (7447-40-7)	A to 10% A 10-30% to 125° AB @ 100%	A to 32% to 180° AB 40-100% to 150°	A	A	A	A to 100% to 180°	A to 100% to 160°	A	A	A to 100% to 140° AB to 100% @ 180°	A to 100% to 70°	A to 100% to 200°	A to 100% to 120°	A to 212°	A to 176° AB to 212°	A	A to 176° B @ 212°	A to 70° A to 100% to 200°	
Potassium Hydroxide (Caustic Potash)	KOH (1310-58-3)	A to 50% to 200° AB @ 100% to 185°	A to 100% to 70° A to 70% to 150°	A to 200° A to 50% to 268°	A to 212°	A (PTFE Encapsulated 316 Stainless St.)	A A 70% to 185°	A to 100% to 160° AB to 100% at 180°	*A to 25% to 140° A to 10% to 280° A 60-100% to 212°	A	B to 100% to 180°	A to 30% to 70° AB to 100% to 70°	A to 100% to 200°	C at 1% at 70° NR at 1% at 125° NR at 5-100% at 70° A to 100% to 200°	AB to 70° AB to 70% to 140° A 5% to 150° A to 140°	A (Black 550) AB (White 571 & 592)	A to 5% to 150° AB to 150°	A to 70°	AB @ 1% to 70° C 10-100% 70-200° NR (Dynamic)	
Potassium Permanganate	KMN04 (7722-64-7)	A to 50% to 75° AB @ 100% to 200° B to 30% 75-212°	A to 25% to 70° AB to 100% to 100° A @ 100% to 130°	A to 200°	A to 75°	A (PTFE Encapsulated 316 Stainless St.)	A to 100% to 70° A to 25% to 140° A to 10% to 180°	A to 100 to 160° A to 10% to 140° AB at 20% to 180°	A	A	A to 10% to 140° NR conc.-100% at 70°	B @ 70°	A to 200°	NR at 100% to 200°	A to 200°	A	AC to 150°	A to 70°	B @ 70° C @ 70° (Dynamic)	
Potassium Silicate (potassium hydroxy-oxido-oxosilane)	HKO3SI (1312-76-1)	NO DATA	AB	NO DATA	NO DATA	A	A to 70°	A to 70°	A to 275°	A	B @ 70°	NO DATA	NO DATA	NO DATA	A to 160°	A	A to 160°	A to 70°	A to 160°	
Potassium Sulfite (Sulfurous Acid)	K2SO3 (10117-38-1)	A @ 100% to 70° A @ 50% to 280°	AB to 100% to 100° A @ 100% to 70°	A to 70°	A	A	A to 100% to 140°	A	A to 212°	A	AB to 70°	NO DATA	A to 70°	NO DATA	A to 200°	A	A to 100% to 80° AB to 100% to 150%	NO DATA	A to 70°	
Propanol	C3H8O	A to 200°	A	A	A	A	A to 140°	A to 150°	A to 100% to 150°	A	A to 70°	NO DATA	AB to 185°	A to 125°	A to 212°	A to 200°	A	A	A to 120°	A to 200°

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: Swelling (Linear (Plastics), Volumetric (Elastomers)), Loss of Tensile Strength (Plastics, Elastomers), Description of Chemical Attack. Includes categories A, B, C, NR and corresponding percentage ranges.

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.

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

Main compatibility table with columns: CHEMICAL (Name, Formula), SPRING Materials (Hastelloy C, 316 SS, PPS, PEEK, PTFE), COUPLING Materials (Polypropylene, HDPE, PVDF, PTFE/PFA, Acetal/POM, ABS, Polysulfone, Polycarbonate), 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)	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												
A	< 10%	<= 15%	< 15%	<= 15%														
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

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® / Viton®)	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	A to 70° C at 122°	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	AB to 70° C @ 120°	A to 70° (Turns Brown)	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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