



## CHEMICAL COMPATIBILITY TABLE



Two

## INTERPRETATION OF TEST DATA

SWELLING		LOSS OF TENSILE STRENGTH			DESCRIPTION OF CHEMICAL ATTACK
(In 30 days to 1 year of exposure)					
	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		
Name	Formula (CAS #)	Hastelloy C (276)	316 SS	PPS	Peek™	Teflon® Encapsulated 316 SS	Polypropylene	HDPE	PVDF
Acetic Acid	C <sub>2</sub> H <sub>4</sub> O <sub>2</sub> (64-19-7)	A to 212°	A to 212°	A	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°
Acetic Anhydride (Acetyl Oxide)	C <sub>4</sub> H <sub>6</sub> O <sub>3</sub> (108-24-7)	A	A to 40% to 165° A 40-100% to 300°	A to 200°	NO DATA	A (PTFE Encapsulated 316 Stainless St.)	AB to 130° NR @ 140°	B/NR 100% 70-180°	AB to 70° B @ 150° NR @ 122°
Acetone (Dimethyl Ketone)	CH <sub>3</sub> COCH <sub>3</sub> (67-64-1)	A	A to 212°	A to 200°	A to 212°	A (PTFE Encapsulated 316 Stainless St.)	A to 230°	C at 70°	A to 10% to 122° AB 50% to 77°
Acetonitrile (Methyl Cyanide)	CH <sub>3</sub> CN (75-09-5)	B @ 70°	A @ 100% to 100° NR 4% @ 192°	A to 200°	A to 70°	A (PTFE Encapsulated 316 Stainless St.)	AB to 75° NR @ 122°	A to 122°	A to 125° B @ 150° NR @ 180°
Aluminium Sulfate (Aluminium Salt)	Al <sub>2</sub> (SO <sub>4</sub> ) <sub>3</sub> (100093-01-3)	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
Amines (General)	NA	A to 85% to 160° AB to 200°	A	A to 70°	A to 70°	A	AB to 120°	NR	NR
Ammonia Gas (Anhydrous)	NH <sub>3</sub> (7664-41-7)	A @ 100% to 140°	A to 40% to 165° A 40-100% to 212°	A to 200°	A	A	A to 100% to 212°	A to 140°	A
Ammonia (Aqueous) (Ammonium Hydroxide) (see also Ammonium Hydroxide)	NH <sub>3</sub> (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	A (PTFE Encapsulated 316 Stainless St.)	A to 185°	BC to 30% to 120° NR to 30% at 140°	A
Ammonium Acetate	C <sub>2</sub> H <sub>7</sub> NO <sub>2</sub> (631-31-6)	A @ 19%	A to 100% to 150°	NO DATA	NO DATA	A	A to 102° AB to 180°	A to 122°	A to 100% to 175°
Ammonium Fluoride	NH <sub>4</sub> F (12125-01-6)	A to 25% to 175° A 45% to 290°	AB to 10% to 212° NR > 10%	NR	NO DATA	A (PTFE Encapsulated 316 Stainless St.)	A	AC 25-100% to 120° A to 25% to 160°	A
Ammonium Hydroxide (Ammonia, Aqueous)	NH <sub>3</sub> OH (1338-21-6)	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°	A (PTFE Encapsulated 316 Stainless St.)	A to 225°	AB to 100% to 140°	A to 200°
Ammonium Sulfate (Dolamin)	(NH <sub>4</sub> ) <sub>2</sub> SO <sub>4</sub> (10007-58-5)	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	A (PTFE Encapsulated 316 Stainless St.)	A 10% to 100°	A to 100% to 70° AB to 100% 120-180°	A
Aqua Regia (Nitrohydrochloric Acid)	HCL-HNO <sub>3</sub> (7732-18-9)	NR (Titanium: A to 70°) (Tantalum: A)	NR	NR	NR	A (PTFE Encapsulated 316 Stainless St.)	C at 70 - 104°	NR	A to 100° AB to 178° B a 212°
Benzene (Mineral Naphtha) (Benzol)	C <sub>6</sub> H <sub>6</sub> (71-42-2)	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 to 500°	AB to 10% to 70° AB dilute to 140°	A to 10% to 70° CNR at 100% at 70° NR at 122°	A to 100% to 120° AB at 100% at 120-140° B at 100% at 140-158°
Butyl Acetate (N-Butyl Acetate)	C <sub>8</sub> H <sub>16</sub> O <sub>2</sub> (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°
Butyl Alcohol (N-Butanol)	C <sub>4</sub> H <sub>9</sub> O (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°
Calcium Carbonate (Aglime)	CCaO <sub>3</sub> (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°
Caprylic Acid (Octanoic Acid)	C <sub>8</sub> H <sub>16</sub> O <sub>2</sub> (124-07-2)	NO DATA	NO DATA	NO DATA	NO DATA	A	A to 125° BC @ 250°	BC @ 70 - 150°	A to 158° B/NR 175-285°
Ceric Ammonium Nitrate (CAN)	Ce(NH <sub>4</sub> ) <sub>2</sub> (NO <sub>3</sub> ) <sub>6</sub> (16774-21-3)	NO DATA	NO DATA	NO DATA	NO DATA	A	NO DATA	NO DATA	NO DATA
Chlorine (Anhydrous) (Dichlorine, Chlorinated Water)	CL <sub>2</sub> (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
Chlorine Dioxide (Chlorine Peroxide) (CDG Solution 3000, 0.3% Sol.)	ClO <sub>2</sub> (10049-04-4)	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°	NR @ 70°	A to 70° (Stressed) B to 120° (Stressed) NR with UV Present
CLOROX (5.25% Sodium Hypochlorite)	CLNaO			A to 200° (13 months) BC @ 200° (1 yr) C @ 70 (1 yr)	AB	A	A to 120° AB to 175° NR @ 212°	A to 150°	A
Citric Acid	C <sub>6</sub> H <sub>8</sub> O <sub>7</sub> (77-09-9)	A to boiling	A to 50% B @ 100% 70-212° NR 60-100% >125° A to 100% to 160° A to 45% to 180° A to 10% to 2121°	A to 220°	A to 212°	A (PTFE Encapsulated 316 Stainless St.)	A	A to 100% to 160° AB to 100% at 180°	A
Copper Sulfate (Cupric Sulfate)	CuSO <sub>4</sub> (7758-98-7)	A to boiling	A	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
Corn Oil	NA	A	A	A to 100°	A to 70°	A	A	A	A
Corn Syrup	NA	A	A	A to 100°	A to 70°	A	A	A to 150°	A
Cotton Seed Oil	NA	A	A	A to 200°	NO DATA	A	A	A to 140°	A
CRESOL (M, O & P)	C <sub>6</sub> H <sub>5</sub> O <sub>2</sub>	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°	A
Cyclohexanone (Cyclohexyl Ketone)	C <sub>6</sub> H <sub>10</sub> O (108-94-1)	A to 100°	A to 100 to 100°	A to 200°	A to 70°	A to 500°	AB to 70° B at 70-100° NR at 120°	NR	AB to 122°
Dichloroacetic Acid (DCA)	CL <sub>2</sub> CHCO <sub>2</sub> H (79-43-6)	NO DATA	NO DATA	NO DATA	NO DATA	A (PTFE Encapsulated 316 Stainless St.)	AB to 100% to 125°	BC at 70°	AB to 50% to 212° AB 100% to 125°
Dichloromethane (Methylene Dichloride)	CH <sub>2</sub> CL <sub>2</sub> (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°
Diesel Fuel	NA	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°
Diethanolamine (DEA)	C <sub>4</sub> H <sub>11</sub> NO <sub>2</sub> (111-42-2)	A	A	NO DATA	NO DATA	A	A 100% to 150° AB 100% to 225°	A to 70°	NR
Dimethyl Acetamide (DMAC)	C <sub>4</sub> H <sub>9</sub> NO (127-19-5)	A	A	NO DATA	NO DATA	A	AB to 125°	A to 122°	NR
Dimethyl Sulfoxide (DMSO)	C <sub>2</sub> H <sub>6</sub> OS (67-68-5)	A	A	A to 200°	B @ 70-122°	A	A to 125°	A to 122°	NR
DI Water (Deionized Water) (Ultra Pure Water, 17 megaohm +)	H <sub>2</sub> O	A	B @ 12 - 18.2 megaohm A @ < 12 megaohm	A to 200°	A	A (PTFE Encapsulated 316 Stainless St.)	A	A to 140°	A
Ether (Ethyl Ether) (Diethyl Oxide)	C <sub>4</sub> H <sub>10</sub> O (60-29-7)	A @ 100% to 200° A to 56% to 171°	A @ 100% to 212°	A to 200°	A to 212°	A to 500°	NR	NR at 100% at 140°	AB to 94° B @ 104° NR @ 140°
Ethyl Acetate (Acetic Ether)	C <sub>4</sub> H <sub>8</sub> O <sub>2</sub> (141-78-6)	A	A	A 100% to 100°	A to 70°	A (PTFE Encapsulated 316 Stainless St.)	A to 180°	A to 70° C at 100% at 122° NR at 100% at 140°	A to 70° B @ 100 - 122° NR @ 170°
2 Ethoxy Ethyl Acetate (Ethoxyethanol Acetate)	C <sub>6</sub> H <sub>12</sub> O <sub>4</sub> (111-15-9)	A	A	A	A to 70°	A	BC @ 70-120° NR @ 140°	AB to 122°	A



# CHEMICAL COMPATIBILITY TABLE



## INTERPRETATION OF TEST DATA

### WARNING:

The compatibility data was assembled from three 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 Entegris Chemical Compatibility Chart. 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.**

### NOTES:

\* PVDF may discolour after prolonged exposure in potassium hydroxide.

\* Polypropylene may discolour after prolonged exposure in sulphuric acid.

Viton® is a registered trademark of Dupont Dow Elastomers, PEEK™ is a trademark of Victrex USA, Inc, Halar® is a registered trademark of Ausimont, Chemraz® is a registered trademark of Green Tweed.

COUPLING Material					SEAL Material					
PTFE / PFA	Acetal / POM (Celcon)	ABS	Polysulfone	Polycarbonate	FKM (Viton)	EPDM	FFKM (Chemraz® / Simriz® / Kalrez®)	NBR (Buna-N)	TPO (Santoprene)	Silicone
A	A to 5% to 70° BC 10% @ 70°	AB 10% to 70° C 20% @ 70° NR 50-100% @ 70°	A to 100% to 70° A to 20% to 140°	A to 50% to 70° B to 50% @ 122°	A 10% to 70° B 10-25% to 100° B 50% to 140°	A to 70° AB to 200°	A A to 70°	B to 30% at 70° B to 20% to 185° C at 80% at 70°	A to 30% to 70° C 50% @ 70°	A A to 70°
A	NR at 70°	BNR @ 70° NR @ 122	NR at 70°	NR at 70°	B 50% to 70° NR 50% @ 100° NR 100% @ 70°	B to 200°	A	C at 100% at 70° NR 25-50% at 70°	A to 70°	A
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°	NR	A to 200°	A	125% vol 3 days 70° NR any conc at 70°	AB to 70°	A
A	NR at 70°	NO DATA	NR at 70°	NR at 70°	NR	A	A		NR	A
A	A at 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°	A to 70° AB any conc to 180°	A to 70°	A to 70°
A	NR at 70°	NO DATA	NO DATA	NR at 70°	NR	AB to AC	A	NR at 70°	A to 70°	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	A (Black 550) AB (White 571 & 592)
A	A/NR 10-30% to 120°	B @ 70°		NR 70-150°	AB 30% to 70° C 10% @ 104° A ammonia H2O	A 100% to 212°	A	A at 38% to 200°	A to 70°	A
A	A to 70°	NO DATA	A sat'd to 122°	A sat'd to 122°	A to 140° B at 212°	A to 140° B at 212°	A	A to 140° B at 176°	A to 70°	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
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
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 100% to 200° NR 10-100%boiling	A to 70°	A to 120°	A	A any con to 200°	A to 70°	A
A	NR at 70°	NR	NR at 70°	NR at 70°	A to 70° B to 185°	B to 104° NR at 140°	A (White 571 & 592) AB to 70° (Black 550)	NR at 70°	NR	A (White 571 & 592) AB to 70° (Black 550)
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°
A to 500°	AB to 70°	NO DATA	NR at 70°	NR at 70°	NR at 70°	B at 70°	A	NR at 70°	BC @ 70°	NR at 70°
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°	A to 70°	AB to 100°	A	A to 100% to 140° AB to 190°	B @ 70°	B @ 70° (Static) C @ 70° (Dynamic)
A to 500°	A to 10% to 150° AB to 180°	NO DATA	NO DATA	C at 70-150°	A to 248°	A to 140°	A to 70°	A to 200°	A to 70°	AC to 70°
A	NO DATA	NO DATA	NO DATA	NO DATA	NO DATA	NO DATA	A	C @ 70°	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
A	NR at 10-100% at 70°	NR	NR at 70°	NR at 70°	C 400 ppm at 70°	B 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°
A	NO DATA	B @ 70°	NO DATA	NO DATA	AB to 5% @ 70° NR 15% @ 70° A 8% (HFLUOR)	NR 8% @ 70°	A	NR 8% @ 70°	NR at 70°	NO DATA
A	A to 0.03% to 140° NR 5%	BC @ 70°	A to 200°	A to 70°	A	AB to 140°	A	B	B @ 70°	AB to 70°
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
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 sat'n to 70°	A
A	AB	A to 70°	A	A	A	NR	A	A	A to 212°	A
A	AB to 140°	AB to 70°	A	A	A	A	A	A	NO DATA	A
A	AB	NO DATA	A	A	A	A	A	A	AB to 70°	A
A	NR 50 - 100%	NR	NO DATA	NR	A to 104°	NR	A	C/NR	NR	B.NR
A to 500°	A to 70° AB to 140°	NR	NR at 70°	NR at 70°	NR at 70°	BC at 70°	B at 70°	NR at 70°	NR	NR at 70°
A	NO DATA	NO DATA	NO DATA	NO DATA	NR	NO DATA	A	NR at 70°	NO DATA	A
A	A to 70°	NR	NR at 70°	NR at 70°	B @ 70°	BC to 130° NR @ 140°	A	NR at 70°	NR	A
A	A to 150°	NO DATA	A to 200°	A to 200°	A to 70°	NR	A	A to 70° AB to 250°	C/NR	NR
A	NO DATA	NO DATA	A to 70°	NO DATA	NR B (HFLUOR)	AB 70-160°	A	NR	A to 70°	NR
A	NO DATA	NO DATA	NR at 70°	NR at 70°	NO DATA	NO DATA	NO DATA	NO DATA	NO DATA	NO DATA
A	NR	NO DATA	NR	NR	NR "A" for "F Type" (HFLUOR)	A to 70°	A	NR	A	A (Static) C (Dynamic)
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	A
A	A to 70° AB at 140°	NR	NR at 70°	NR at 70°	NR	NR	A	NR at 70°	NR	A
A	A to 10% to 200° AB at 100% to 70° BC at 100% at 140°	AC @ 70°	NR at 70°	NR at 85-100% at 70°	NR	A @ 100% to 130°	A	NR at 70°	NR	B @ 70° NR @ 200°
A	A to 70°	NO DATA	NR	NR	CNR AB (HFLUOR)	B	A	NR	C/NR	NR



## CHEMICAL COMPATIBILITY TABLE



Two

CHEMICAL		SPRING Materials					COUPLING Materials		
Name	Formula (CAS #)	Hastelloy C (276)	316 SS	PPS	Peak™	Teflon® Encapsulated 316 SS	Polypropylene	HDPE	PVDF
Ethyl Alcohol (Ethanol/Grain Alcohol) (Denatured Alcohol)	C <sub>2</sub> H <sub>5</sub> OH (64-17-5)	A to 100% to 212°	A to 100% to 200°	A	A to 212°	A (PTFE Encapsulated 316 Stainless St.)	A to 100% to 180°	A to 100% to 160°	A to 100% to 176° AB to 100% to 280°
Ethylene Glycol (Glycol Alcohol) (Preston®)	HOCH <sub>2</sub> -CH <sub>2</sub> OH (107-21-1)	A 20-100°	A 40-100% to 200° A 100%	A to 200°	A to 212°	A (PTFE Encapsulated 316 Stainless St.)	A	A to 160°	A
Ethylene Glycol Mono Butyl Ether (Butyl Cellosolve)	C <sub>8</sub> H <sub>18</sub> O (111-76-3)	A to 200°	A to 200°	A to 200°	NO DATA	A	AB to 140°	BNR@70°	A to 104° NR @ 212°
Ferric Sulfate (Sulfuric Acid)	Fe <sub>2</sub> O <sub>3</sub> .S <sub>3</sub> (10028-22-9)	A to 100% to 140°	A to 10% to 212° A 20-100% to 140°	A	A	A	A	A to 100% to 150°	
Formaldehyde (Formalin)	CH <sub>2</sub> O (500-00-0)	A to 20% B 20-100% to 200°	A	A to 100% to 70° NR 37% @ 200°	A	A	A	A to 80° B @ 150°	A to 100% to 104° A to 37% AB 40-100% @ 140°
Formic Acid (Formylic Acid)	CH <sub>2</sub> O <sub>2</sub> (64-18-6)	A to 100% to 200°	A to 5% AB 5 - 80% to 212° B 80 - 100% to 212°	A to 100% to 70° A to 40% to 200° NR @ 37% @ 150°	AB to 10% to 70° BC 100% @ 70°	A (PTFE Encapsulated 316 Stainless St.)	A to 100% to 70° A to 40% to 104° C 100% @ 140°	A to 100% to 104° AB at 50-100% at 140-150° BC at 100% at 180°	A to 100% to 212°
Gasoline (Petrol)	NA	A	A to 200°	A to 176°	A to 212°	A to 500°	NR at 70°	NR	A to 275° AB to 285°
Glycerin (Glycerol)	C <sub>3</sub> H <sub>8</sub> O <sub>3</sub> (56-81-5)	A to 100% to 212° A @ 100% to 600°	A to 100% to 200° A @ 100% to 300°	A to 200°	A to 100% to 70°	A to 450°	A to 100% to 225°	A to 160° A to 150° AB to 180°	A to 100% to 275° AB at 100% at 285°
Hexane (Dipropyl (N-Hexane)	C <sub>6</sub> H <sub>14</sub> (110-54-3)	A	A @ 100% to 200°	A to 200°	A to 70°	A (PTFE Encapsulated 316 Stainless St.)	BC @ 70-104° C @ 120-140° NR @ 140°	NR	A
HMDS (1,1,1,3,3,3-Hexamethyldisilazane) Bis(trimethylsilyl)amine	C <sub>6</sub> H <sub>15</sub> NSi <sub>2</sub> (999-97-3)	NO DATA	NO DATA	NO DATA	NO DATA	A (PTFE Encapsulated 316 Stainless St.)	NO DATA	NO DATA	NO DATA
Honey	NA	A to 70°	A to 140°	NO DATA	NO DATA		A to 70° AB @ 180°	A to 140°	A
Hydrazine (Diamine)	H <sub>2</sub> N <sub>2</sub> (302-01-2)	A to 70°	A to 140°	NO DATA	A	A	NR 35-100% @ 70°	A to 70°	A
Hydrobromic Acid (Hydrogen Bromide)	HBBr (10035-10-6)	A @ 50% to 80° A @ 100% to 140° AB to 20% to 70°	NR	A to 37% to 100° A to 70°	NR	A (PTFE Encapsulated 316 Stainless St.)	A 20% to 225° A to 50% to 150° B Conc. to 185°	A to 20% to 160° A to 50% to 140° AB 50-100% at 70-150°	A dilute to 250° A to 37% to 70° A 38-100% at 275°
Hydrochloric Acid (Muriatic Acid)	HCL (7647-01-0)	A to 40% to 140° NR 5-100% 175°	NR 3-100%	A to 10% to 200°	A to 212°	A (PTFE Encapsulated 316 Stainless St.)	A to 100% to 70° A to 38% to 185°	A to 100% to 140° AB to 40% to 150°	A to 38% to 194° A to 50% to 175° AB 40-70% to 70°
Hydrofluoric Acid (Hydrogen Fluoride) (HF)	HF (7664-39-3)	A to 100% to 70° A @ 90% to 125°	A to 10% AB @ 10% to 120° NR 45-50%	A to 50% to 140° A to 35% to 200° NR > 50%	NR 4-100% @ 70°	A (PTFE Encapsulated 316 Stainless St.)	A to 50% to 140° A to 40% to 200° A to 30% to 225°	A to 60% to 140° A to 40% to 180° A to 30% to 160°	A to 100% to 212°
Hydrogen Peroxide (Hydrogen Dioxide)	H <sub>2</sub> O <sub>2</sub> (7722-84-1)	A to 100% to 75° A to 50% to 200°	A to 30% to 104° A 50-100% to 70°	A to 10 to 200° AB to 30% to 100° NR 50-100% @ 70°	A to 212°	A (PTFE Encapsulated 316 Stainless St.)	A to 80% to 70° A to 5% to 170° NR 30% > 125°	A to 30% to 140° AB at 30-90% to 120° NR at 30-100% to 70°	A to 200° A to 30% to 212°
Iodine	I <sub>2</sub> (7553-56-2)	A	A 9-10% to 72° NR > 10%	NR	BC @ 70°	A (PTFE Encapsulated 316 Stainless St.)	A to 100% @ 75° AB to 100% @ 176° C @ 125°	A to 6.5% to 70°	A to 100% to 170° C 100% @ 212°
Isopropyl Acetate	C <sub>6</sub> H <sub>12</sub> O <sub>2</sub> (108-21-4)	B @ 70°	A to 100% to 175°	NO DATA	NO DATA	A	AB to 100% @ 176° C @ 125°	A to 70°	A to 280°
Isopropyl Alcohol (IPA) (Isopropanol)	(CH <sub>3</sub> ) <sub>2</sub> CH-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°
KEROSENE	NA	A	A	AB to 200°	A to 70°	A	AB to 80° BC @ 122° NR @ 140°	CNR @ 70° NR @ 100°	A
LACTIC ACID	C <sub>3</sub> H <sub>5</sub> O <sub>3</sub> (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	A	A	A to 100% to 150°	A to 140°	A to 100% to 100° B 100% @ 120° AB to 80%
LIMONENE (D-Limonene / DL-Limonene) (Orange Oil)	C <sub>10</sub> H <sub>16</sub> (138-86-3) (69-8927-5)	A to 70°	A to 140°	NO DATA	NO DATA	A	B @ 70° C @ 122°	B @ 70° C @ 122°	A to 280°
METHOXYBUTANOL (3-Methoxy-1-Butanol)	C <sub>5</sub> H <sub>12</sub> O <sub>2</sub> (2517-43-3)	NO DATA	NO DATA	NO DATA	NO DATA	A	NO DATA	NO DATA	NO DATA
METHOXYETHANOL (Ethylene Glycol Monomethyl Ether)	C <sub>4</sub> H <sub>10</sub> O <sub>2</sub> (109-86-4)	NO DATA	NO DATA	NO DATA	NO DATA	A	A to 122°	A to 122°	A to 122°
Methyl Alcohol (Methanol) (Wood Alcohol)	CH <sub>3</sub> OH (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° BNR at 100% at 150-180°	A to 148° AB 212-257°
Methylene Chloride	CH <sub>2</sub> CL <sub>2</sub> (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°
Methyl Ethyl Ketone (MEK)	C <sub>5</sub> H <sub>10</sub> O (78-93-3)	A to 200°	A to 200°	A to 100% to 70°	A to 212°	A to 500°	A to 100% to 70° AB at 100% at 125° AB at 100% at 122°		NR
MINICARE® Cold Sterilant (Hydr. Peroxide (24%), Peracetic acid (6%), Acetic acid (10%))	H <sub>2</sub> O <sub>2</sub> C <sub>2</sub> H <sub>4</sub> O <sub>3</sub> C <sub>2</sub> H <sub>4</sub> O <sub>2</sub>	A	A	AB	A	A	A	AC (Embrittles over time)	AB
Motor Oil	NA	A to 70°	A to 140°	A to 200°		A	A 100% to 70° C @ 120° NR @ 140°	BNR @ 70°	A
N-Methyl 2-Pyrrolidone (NMP)	NMP CH <sub>3</sub> (NCH <sub>2</sub> ) <sub>2</sub> CO (872-90-4)	NO DATA	NO DATA	A to 70°	A	A (PTFE Encapsulated 316 Stainless St.)	A	NO DATA	CNR @ 70°
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
Naptha (Petroleum Solvent) (Hans Solvent)	(64742-94-5)	A to 140° AB to 200°	A 96% to 170° A 60% to 70°	A	A	A	AB @ 70 - 150° CNR @ 150 - 180°	BC @ 70° BNR @ 120° NR @ 140°	A
Naphthalene (Coal Tar Distillate)	C <sub>10</sub> H <sub>8</sub> (91-20-3)	A to 130° B @ 180°	A	A	A	A	B @ 70° BC @ 70-140° NR @ 170°	B @ 70° (short duration) NR @ 70° (1 year)	A
Nitric Acid (Hydrogen Nitrate)	HNO <sub>3</sub> (7697-37-2)	A to 95% to 130° A to 50% to 140° AB @ 10% to 185°	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% to 210°	A (PTFE Encapsulated 316 Stainless St.)	A to 50% to 104° A to 30% to 180° A to 50% to 210°	A to 30% to 140° A to 40% to 70° AB at 50% to 70°	A to 98% to 70° A to 90% to 140° A to 30% to 212°
OIL, Corn	NA	A to 70°	A	A to 175°	A to 140°	A to 140°	BNR to 104°	AB to 70°	A
OILSLUBRICANTS, General	NA	A	A	AB to 70° NR @ 120°	AB to 70° (SEA) NR (Crude & Diester)	A to 70°		A	
OIL, Mineral	NA	A	A to 150°	A to 100° CNR @ 140-160	C @ 70° NR @ 100°		NR	A to 140°	A
OIL, Olive	NA	A to 70°	A	A 100% to 176°	AB to 70°	A	B @ 70°	A to 150°	A
OIL, Vegetable	NA	A	A	A to 140° AB @ 160°	AC @ 70°		AC	A to 70°	
Oxalic Acid (Ethanedioic Acid)	C <sub>2</sub> H <sub>2</sub> O <sub>4</sub> (144-62-7)	A to 100% to 140° A to 50% to Boil B 60-90% to 70°	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°
Ozone (trioxygen)	O <sub>3</sub> (10028-15-6)	A @ 2% to 140°	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 said in H2O at 70° NR at 2-100% at 105°	A
Peracetic Acid (Peroxyacetic Acid)	C <sub>2</sub> H <sub>4</sub> O <sub>5</sub> (79-21-0)	A	A	A	A	A	AC 40% @ 70°	AC (Embrittles over time)	A to 40% to 70°
Phenol (Carbolic Acid)	C <sub>6</sub> H <sub>5</sub> O (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°
Phosphoric Acid	H <sub>3</sub> PO <sub>4</sub> (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 A 85% to 230°
Phosphorous Trichloride (PICl)	CLP (7719-12-2)		A to 120°		A	A	BNR @ 70°	A to 100% to 150°	A



# CHEMICAL COMPATIBILITY TABLE



COUPLING Material					SEAL Material					
PTFE / PFA	Acetal / POM (Celcon)	ABS	Polysulfone	Polycarbonate	FKM (Viton®)	EPDM	FFKM (Chemraz® / Simriz® / Kalrez®)	NBR (Buna-N)	TPO (Santoprene)	Silicone
A	A at 96-100% to 70° B at 100% at 120-180°	AB to 70° (No stress)	A to 70% to 70° B at 100% at 70-120° NR at 100% at 200°	A to 90% to 70° AB at 96-100% to 70° B at 40-100% at 120°	A to 70°	A to 200°	A	A to 140° B to 185°	A to 70°	A
A	A to 100% to 120° AB to 140° B at 180°	A to 70° B @ 140°	A to 100% to 200°	A to 160° B to 200°	A to 250°	A to 212°	A	A to 212°		A
A	AB to 70°	NO DATA	A to 70° BC @ 120°	NR	NR (HFLUOR OK)	A to 200°	A	C 70 - 150°	A to 70°	NR
A	B to 180°	A to 70° AB @ 120°	A to 100% to 200°	A to 70°	A to 176° B @ 212°	A to 176° AB to 200°	A	A to 140° AB to 200°	A to 70°	AB to 160°
A	A to 70° AB to 40% 140-180°	A to 40% to 70° AB 40% @ 120°	AB to 100% to 70°	A to 100° AB to 100% @ 120°	A to 176° A to 37% to 212°	A to 120° A to 37% to 212°	A to 104°	A to 40% to 140° B @ 40% @ 212°	AB to 70°	B 40-100% @ 70°
A	NR at 3-100% at 70°	A to 10% to 70° NR @ 70°	A to 10% to 70° B at 10-50% to 70-120° C 98-100% at 70-120°	A to 50% to 70° AB at 50-100% to 70° B at 3-50% at 120°	AB to 50% to 104° NR 50-100% @ 70°	A to 200° A to 90% to 212°	B	B to 50% at 70° NR 50-100% at 70° NR at 100% at 140°	A to 70°	B
A to 500°	A to 70°	NR	A to 70°	C at 70°	AB to 200°	NR at 70°	A to 70°	A to 250°	CNR	NR at 70°
A to 450°	A to 140°	AB @ 70-140°	A at 100% to 200°	A to 125°	A to 250°	A to 176° AB to 200°	A to 70°	A to 250°	A to 70°	A to 70°
A	A to 70°	NR	A at 100% to 200°	A to 158° NR at 80-120°	A to 200°	NR	A	A to 70°	AC @ 70°	A
A	NO DATA	NO DATA	NO DATA	NO DATA	NO DATA	NO DATA	A	NO DATA	NO DATA	A
A	A to 70°	B @ 70°	NO DATA	A to 70°	A to 140°	A to 140°	NO DATA	A to 140°	A to 70°	A to 70°
A	B @ 70°	NO DATA	NR	NR	A Aqueous to 70° NR	A to 100% @ 70°	B A 64% to 70°	AB 24% @ 70° BC 64 - 100% @ 70% B Anthydrouse	A to 70°	B to 100% 70-200°
A	NR	NR 20% @ 70°	A to 20% to 300° B at 30% at 70°	NR at 30-100% at 70°	A to 140°	A to 200°	A	NR	B 30-100% @ 70°	A
A	A to 10% to 70° NR at 30-100% at 70°	AB 10-50% to 70° BC 50-100% @ 70° NR 50-100% @ 150°	A to 100% to 70° A to 30% to 140° A to 37% to 200°	A to 10% to 200° AB at 20% at 70-200°	A to 100% to 70° A to 37% to 160°	A to 25% to 140° AB to 37% to 130° A to 10% to 176°	A	AB 20-37% to 70° AB to 15% to 150°	A to 70° AB to 37% to 150° C 37% @ 150°	A
A	NR at 70°		A to 10% to 200° AB 25-38% at 70-200°	A to 10% to 180° AB at 20% to 70° BC at 35% at 70°	A to 60% to 130° A to 50% to 176° A to 30% to 212°	A dilute to 212° AB to 60% to 130° AB to 65% to 70°	A	AB 10% to 70° C 20-30% to 130°	C 20-25% @ 70° NR 50-100% @ 70°	A
A	NR at 4-100% at 70°	A to 10% to 70° NR 100% @ 70°	A to 100% to 70° A to 90% to 120° B at 30% at 180°	A to 100% to 125°	A to 104° A 50% to 200° AB @ 100% @ 160°	B 5% to 140° B 3-30% @ 70°	A (White 571 & 592) AB (Black 550)	B 3% at 70° BC 10% to 80°	A to 100% to 70°	A to 90% to 70° B @ 100% @ 70°
A	A to 70° C/NR at 100% at 70°	NO DATA	NR	NR	A to 100% to 140°	AB to 160°	A	A 6.5% to 70° B to 140°	A to 70°	A
A	A/NR @ 70°	NR @ 70°	C/NR @ 70°	NR	NR	AB to 160°	A	NR	B @ 70°	NR
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° B @ 176°	A	A to 70° B any conc to 130°	A to 70°	A
A	A to 180°	BC @ 70°	AB to 200°	A to 70° AC @ 122°	A to 158°	NR	A	A	NR	NR
A	AC to 100% fr 70-140°	NR	A to 100% to 200° A to 50% 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°
A to 122°	NR @ 70°	NO DATA	C @ 70 - 122°	C @ 70 - 122°	A to 140°	NO DATA	NO DATA	A to 140°	C @ 70°	NR @ 70°
A	NO DATA	NO DATA	NO DATA	NO DATA	A to 70°	AB @ 70°	A	A to 70°	NO DATA	NO DATA
A	NO DATA	NO DATA	NR	NR	BC @ 70° NR (Dynamic) A (HFLUOR)	A to 70°	A	BC @ 70° NR (Dynamic)	NO DATA	AB to 70° C (Dynamic)
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°	NR	A to 160° AB to 176°	A	A to 70° AB any conc to 150°	A to 70°	A
A	A to 70°	NR	NR at 100% at 70°	NR at 70°	B @ 70°	BC to 130°	A	NR at 70°	NR at 70°	A
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 at 70°
A	NR	B	A	A	B	B	A	B	A	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°
A	NO DATA	NO DATA	NR at 70°	NO DATA	AB @ 70° A (HFLUOR)	A to 70°	A	NO DATA	NO DATA	A
A	A to 70°	NR	B @ 70°	NO DATA	A	NR	A	AB to 250°	CNR @ 70°	NR
A	A to 70°	B/NR @ 70°	AB to 140°	A to 70°	A	NR	A	AB to 250°	CNR @ 70°	NR
A	A to 70° AB @ 140°	NR	C @ 70°	NO DATA	A to 176°	NR	A	NR	BC @ 70°	NR
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 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°	A
A	AB to 70°	A to 70°	A to 70°	A to 150°	A to 140°	NR	A	AB any conc to 150°	A to 212°	A to 70°
A	A to 158°	B @ 70°	A	A to 70°	A to 158°	NR	A	A	NR	NR
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°
A	A to 150°	A to 70°	A to 73°	A to 150°	A to 176°	B @ 70°	A to 70°	A	B @ 70°	NR
		C @ 70°			A to 200°	AC to 200°	A	A to 200°	BC @ 70°	A to 70°
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°	A
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 (White 571 & 592) AB (Black 550)
A	NR	NO DATA	NO DATA	NR	A to 1% @ 70° C @ 100% @ 70° A (HFLUOR)	A 1 & 100% @ 70° B 10% @ 70°	A to 1% @ 70° A (HFLUOR)	C 100% @ 70° NR 1-10% @ 70°	NO DATA	B 100% @ 70° NR 1-10% @ 70°
A	NR	NR	A to 5% to 70° NR 100% @ 70°	A to 5% @ 70°	A to 140°	NR 5 - 100%	A	NR	A/NR @ 70°	NR
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°/8 C 50-100% @ 70	A
A	AB to 180°	NR	NO DATA	NR	A to 70°	A to 70°	A	NR	NO DATA	NO DATA



## CHEMICAL COMPATIBILITY TABLE



Two

CHEMICAL		SPRING Materials					COUPLING Materials		
Name	Formula (CAS #)	Hastelloy C (276)	316 SS	PPS	Peek™	Teflon® Encapsulated 316 SS	Polypropylene	HDPE	PVDF
3:1 Mixture of Concentrated Sulfuric Acid & 30% Hydrogen Peroxide	NA	A	NR	AB	NR	A	A to 90% to 104°	A to 75% to 70° BC 96-98% @ 70-120°	A to 98% to 120°
Plating Solution, General	NA	A to 70°	A to 140°	A to 70°	NO DATA	A	A	A to 140°	A
Plating Solution, Cadmium	NA	A to 90°, Cyanide A/NR @ 100°, Fluob.	A to 140°	A to 70°	NO DATA	A	A	A	A
Plating Solution, Chrome	NA	A to 130°, Fluoride NR @ 90°, Barrel NR @ 115°, Black	A to 70° NR @ 95°, Barrel	A to 70°	NO DATA	A	AC to 70° C @ 95° (Barrel)	A	A
Plating Solution, Copper	NA	A to 120°	A to 70°, Barrel A to 120°, Copper A to 120°, Cyanide	A to 70°	NO DATA	A	A	A	A
Plating Solution, Nickel	NA	A to 140°	A to 70° A, Cyanide C @ 70°, Sulfamate	A to 70°	NO DATA	A	A	A	A
Plating Solution, Tin	NA	A to 125°	A to 70° C 100-125°, Fluoborate	A to 70°	NO DATA	A	A	A to 180°	A
Plating Solution, Zinc	NA	A to 70°, Alk-Cyanide A top 150°, Cyanide NR @ 140°, Chloride	A to 70°, Cyanide A to 70°, Fluoborate NR Acid	A to 70°	NO DATA	A	A	A to 150°	A
Potassium Carbonate (Carbonic Acid) (Potash)	CK <sub>2</sub> O <sub>3</sub> (584-06-7)	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 to 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°
Potassium Chlorate (Chloric Acid) (Potassium Salt)	CLKO <sub>3</sub> (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
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
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°
Potassium Permanganate	KMNO <sub>4</sub> (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° AB at 20% to 180°	A
Propanol (Propyl Alcohol) (Rubbing Alcohol)	C <sub>3</sub> H <sub>8</sub> O (67-63-4)	A to 200°	A	A	A	A	A to 140°	A to 150°	A to 100% to 150°
Propionic Acid (Propanoic Acid)	C <sub>3</sub> H <sub>4</sub> O <sub>2</sub> (79-09-4)	A	A	NO DATA	A to 212°	A	A 100% to 70°	AB to 70° C @ 122°	A 100% to 280°
Propylene Glycol (PG-12)	C <sub>3</sub> H <sub>8</sub> O <sub>2</sub> (57-55-6)	B @ 100% @ 70°	A to 30% A @ 60-90° A @ 60%	A to 70°	NO DATA	A	AB to 160°	A to 140° AB at 180°	A to 275° AB at 280°
PGMEA (Propylene Glycol Monomethyl Ether Acetate)	C <sub>6</sub> H <sub>12</sub> O <sub>3</sub> (108-65-6)	A	A	A	B	A	A to 140°	A	AB
PGME (Propylene Glycol Monomethyl Ether) (Dowtherm 299 / Dowanol PM)	C <sub>6</sub> H <sub>14</sub> O <sub>3</sub> (107-98-2)	A	A	A	B	A	A to 140° AB to 150°	A	AB
Propylene Oxide	C <sub>3</sub> H <sub>6</sub> O (75-56-9)	A to 70°	A to 140°	NO DATA	NO DATA	A	A to 70° AB @ 125°	A to 122° AB @ 140°	NR @ 100% @ 70°
Pyridine (Azine)	C <sub>5</sub> H <sub>5</sub> N (110-86-1)	A to 100% to 100° A @ 100% to 140°	A to 100% to 212°	A to 200°	A to 212°	A (PTFE Encapsulated 316 Stainless St.)	A to 100% to 75° AB 100% 120-180° NR 100% @ 120°	BC at 70° C at 140°	NR
Sodium Bicarbonate (Baking Soda)	CHNAO <sub>3</sub> (144-55-8)	A to 100% to 150° AB to 20% to boiling	A to 100% to 150° A to 20% to 212°	A to 100% to 300°	A to 250°	A to 100% to 500°	A to 225°	A to 160° AB at 180°	A to 100% to 275° AB to 100% at 285°
Sodium Carbonate (Soda Ash)	CNa <sub>2</sub> O <sub>3</sub> (497-19-8)	A to 100% to 212°	A to 100% to 212°	A to 100% to 300°	A to 100% to 212°	A to 100% to 500°	A to 100% to 225°	A to 100% to 160° AB to 100% at 180°	A to 100% to 275° AB to 100% at 285°
Sodium Chloride (Salt)	CNa (7647-14-5)	A to 100% to 176°	A to 16% to 212° A 25- 80% to 160° A @ 100% to 212°	A	A	A	A	A to 100% to 160°	A
Sodium Chlorite (Sodium Salt)	CNaO <sub>2</sub> (7739-19-2)	NO DATA	AB	AB	A	A	A to 100% to 70° A to 50% 100° AB to 100% @ 200°	A to 140°	A
Sodium Hydroxide (Caustic Soda)	NaOH (1310-73-2)	A to 100% to 70° A to 50% to 200° AB 50-80% to 170°	A to 20% AB 20- 70% to 212° AB 70-100% to 125°	A to 100% to 70° A to 50% to 140° A to 20% to 200°	A to 100% to 70° A to 54% to 392°	A (PTFE Encapsulated 316 Stainless St.)	A to 125° A to 70% to 225°	A to 100% to 140° A to 70% to 160° AB to 100% at 180°	A to 50% to 70° A to 20% to 104° A to 15% to 176°
Sodium Hypochlorite (Bleach)	CLNaO (7681-52-9) (10022-76-5)	A to 50% to 115° A to 20% to 140° AB @ 100% to 200	Generally NR A to 6% to 160° A sat'd to 200°	BC 5% to 200°	AB to 100%	A (PTFE Encapsulated 316 Stainless St.)	A to 100% to 70° A to 5% to 120° C 12-13% to 70°, NR @ 104°	A to 100% to 160° AB to 100% at 180°	A to 17% AB to 100%
Sodium Silicate (Waterglass) (Silicic Acid)	Na <sub>2</sub> O <sub>2</sub> Si (1344-09-8)	A to 140°	A to 212°	A	A	A	A to 180°	A to 150°	A
Sodium Sulfite (Disodium Sulfite) (Sulfurous Acid)	Na <sub>2</sub> O <sub>3</sub> S (7757-83-7)	A 20-100% to 130° A to 5% to 100° B to 30% to 212°	A to 100% to 70° AB to 30% @ 175°	A to 70°	A	A	A	A to 140°	A
Sodium Tripolyphosphate	Na <sub>5</sub> O <sub>3</sub> P <sub>3</sub> (7758-29-4)	NO DATA	A to 100% to 120° A 16-50% to 175°	NO DATA	A	A	A to 175°	A to 140°	A
Soybean Oil	No Formula	A	A	A	A	A	A	A	A
STERIS® CIP 100 (Potassium Hydroxide & Tetrasodium EDTA)	Alkaline Cleaner KOH & C <sub>10</sub> H <sub>16</sub> N <sub>2</sub> Na <sub>4</sub> O <sub>8</sub>	A to 200°	A to 150°	A	A to 212°	A	A	NO DATA	A to 140°
STERIS® CIP 200 (Phosphoric Acid & Citric Acid)	Acid Cleaner H <sub>3</sub> PO <sub>4</sub> C <sub>6</sub> H <sub>8</sub> O <sub>7</sub>	A to 200°	A to 150°	A to 220°	A	A	A	A	A
Sulfuric Acid (Air-free) (Better when aerated)	H <sub>2</sub> SO <sub>4</sub> (7664-93-9)	A to 60% to 70° A 90-100% to 100° (A to 100% to 140°)	NR 10-100% @ 70° B 100% to 125° (Sensitive to concn.)	A 10-75% to 70° AB to 98% to 220°	A to 40% to 212° NR > 40%	A (Encaps. 316ss)	A to 100% to 212° A to 50% to 176° A to 90% to 104°	A to 75% to 70° A to 60% to 140° A to 50% to 160°	A to 90% to 212° A to 96% to 175° A to 100% to 120°
Tetrachloroethylene (PERC/PERK)	C <sub>2</sub> Cl <sub>4</sub> (127-18-4)	A	A	AB @ 100%	A	A	NR 100% @ 70° B Low Conc. @ 70°	NR 100% to 70° B 10% @ 70°	A to 98% to 176°
Tetrahydrofuran (Tetraethylene Oxide) (THF)	C <sub>4</sub> H <sub>8</sub> O (109-99-9)	A to 200°	A to 200°	A 100% to 140° C 100% @ 200°	A to 70°	A (PTFE Encapsulated 316 Stainless St.)	BC @ 70° C/NR @ 100-120° NR @ 140°	NR at 70°	C 10-100% @ 70° NR @ 120°
Tetra Methyl Ammonium Hydroxide (TMAH)	C <sub>4</sub> H <sub>12</sub> N <sub>4</sub> O (75-59-2)	NO DATA	NO DATA	NO DATA	NO DATA	A to 100% to 500°	A to 150°	NO DATA	A to 100% to 200° A to 50% to 215°
Thionyl Chloride (Sulfinyl Chloride) (Sulfurous Chloride)	CL <sub>2</sub> OS (7719-09-7)	NO DATA	NR	NO DATA	A to 70°	A	BNR 10- 100% @ 70°	NR	NR
Toluene (Tolul)	C <sub>7</sub> H <sub>8</sub> (108-88-3)	A to 212°	A @ 100% to 212°	A to 100°	A to 75°	A (PTFE Encapsulated 316 Stainless St.)	NR	AB to 70° C/NR at 70° NR at 140°	A to 140° AB @ 176° BC 176-212°
Trichloroacetic Acid (TCA)	C <sub>2</sub> HCL <sub>3</sub> O <sub>2</sub> (76-03-9)	A @ 100% to boiling AB to 100% to boil.	NR	A to 200°	A to 68° (Fluorware)	A (PTFE Encapsulated 316 Stainless St.)	A to 140° AC @ 70-150°	A to 10% to 140° AC at 70-150°	A to 75° A to 65% to 212° AB 104-125°
Trichloroethylene (Ethylene Trichloride) (Triad)	C <sub>2</sub> HCL <sub>3</sub> (79-01-4)	B @ 90% to 212° A @ 100% to 212°	A @ 90% to 212° A @ 100°	AC 70-100° NR @ 200°	A to 212°	A (PTFE Encapsulated 316 Stainless St.)	NR	B at 70° C at 122° NR at 212°	A to 189° (blackens)
Triethylamine	C <sub>6</sub> H <sub>15</sub> N (121-44-8)	NO DATA	A	NO DATA	NO DATA	A	NR	AB to 70° C @ 120°	A to 70° (Turns Brown)
Triethanolamine (TEA)	C <sub>6</sub> H <sub>15</sub> NO <sub>3</sub> (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°
Trimethylbenzene (Pseudocumene)	C <sub>9</sub> H <sub>12</sub> (95-63-6)	NO DATA	NO DATA	NO DATA	NO DATA	NO DATA	NO DATA	NO DATA	NO DATA
UREA (AdBlue, AUS32, Aqueous Urea Sol. 32.5%) (DEF, Diesel Exhaust Fluid, BlueTec)	CH <sub>4</sub> N <sub>2</sub> O (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	A to 100% to 250°
Xylene (Xylo)	C <sub>8</sub> H <sub>10</sub> (1338-26-7)	A	A 75-100% A @ 50% to 220°	A to 200°	A to 70°	A (PTFE Encapsulated 316 Stainless St.)	C @ 70-140° NR @ 150°	NR at 70°	A to 175° A to 100% to 175°



## CHEMICAL COMPATIBILITY TABLE



COUPLING Material					SEAL Material					
PTFE / PFA	Acetal / POM (Celcon)	ABS	Polysulfone	Polycarbonate	FKM (Viton®)	EPDM	FFKM (Chemraz® / Simriz® / Kalrez®)	NBR (Buna-N)	TPO (Santoprene)	Silicone
A	NR	NR	NR	NR	A	NR	A	NR	A	NR
A	A to 100°	NO DATA	NO DATA	NO DATA	A to 70°	A to 70°	A	A to 70°	A to 70°	NR
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
A	BNR @ 70°	CNR @ 70°	NO DATA	A to 70°	A to 140°	A to 70°	A	NR	NO DATA	NR
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
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
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
A	NO DATA	NO DATA	NO DATA	NO DATA	A to 140°	A to 70°	A	A to 140°	NO DATA	NO DATA
A to 100% to 500°	A at 60-100% to 180°	A to 70°	A to 200°	A at 5% to 70° NR at 70°	A to 212°	A to 176° AB to 200°	A aqueous sol'n to 70°	A to 200° A to 180°	A to 70°	AC to 70°
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 to 130° AB to 140-200°	A	A to 70° AC to 130°	A to 70°	AB to 125° C @ 70° (dynamic)
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° B @ 212°	A	A to 176° B @ 212°	A to 70°	A to 100% to 200°
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°	AB to 70° AB to 70% to 140° A 5% to 150°	A to 200° B 25% @ 212	A (Black 550) AB (White 571 & 592)	A to 5% to 150° AB to 150°	A to 70°	A (Black 550) AB (White 571 & 592)
A	A to 10% to 140° NR conc-100% at 70°	B @ 70°	A to 200°	A to 100% to 200°	A to 140°	A to 200°	A	AC to 150°	A to 70°	A
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°
A	NR	NR	B @ 70-122°	A to 20% to 70° NR 100% @ 70°	50% to 100° NR 100% @ 70°	A to 100% to 200°	A	AC Set 70-200° NR 50% @ 70°	A to 70°	B @ 70° C @ 70° (dynamic)
A to 500°	A to 70°	A to 70°	B at 70-122°	BC at 70° C/NR at 122°	A to 140°	A to 70°	A to 70°	A to 250°	AB to 70°	A to 70°
A	A to 70° AB to 140°	A to 70°	NO DATA	NO DATA	NR	A 50% to 70°	A	NO DATA	AB to 70°	A
A	A to 70 AB to 140°	A to 70°	NO DATA	NO DATA	NR	A 50% to 70°	A	NO DATA	AB to 70°	A
A	NO DATA	NO DATA	B @ 70-122°	NR	NR	B to 120°	A	NR	A to 120°	NR
A	AB to 70°	NO DATA	AB to 50% to 70° NR at 70°	NR at 70°	NR	B to 160°	A	NR at 70°	AC 70-120°	A
A to 100% to 500°	A to 200°	A to 100% to 70°	A to 100% to 70°	A to 100% to 200°	A to 212°	A to 176° B at 212°	A to 70°	A to 140° AB to 200°	A to 70°	A to 70°
A to 100% to 500°	A to 100% to 140° A to 20% to 180°	AB to 100% to 70°	A to 100% to 200°	A to 100% to 200°	A to 212°	A to 176° B at 212°	A to 70°	A to 100% to 160° AB to 100% to 200°	A to 70°	A to 70°
A	A to 100% to 70° AB to 100% 150-180°	A to 100% to 70°	A to 100% to 200°	A to 100% to 120°	A to 100% to 212°	A to 100% to 176°	A to 70°	A to 160°	A to 100% to 120°	NO DATA
A	NO DATA	NO DATA	A to 70°	NO DATA	A to 70°	A to 70°	A	NR	A to 70°	B @ 70° C (Dynamic)
A	A to 60% to 180° AB at 60-80% to 180° BC at 80-100% at 70°	A to 25% to 70° AB to 100% to 70° B 10-50% @ 70-180°	A to 50% to 120° A to 20% to 200° AB to 50% to 250°	A to 20% to 120° A to 10% to 180° C at 25% at 70-120°	B to 70° B 80% @ 140°	A to 70° A to 50% to 176° B 20% @ 212°	A (Black 550) AB (White 571 & 592)	A to 20% to 212° A to 50% to 176°	A to 100% to 70°	A (Black 550) AB (White 571 & 592)
A	NR at 10-100% at 70°	BC to 10% to 70° C @ 5% @ 70° NR @ 70°	A to 10% to 200° A to 17% to 300°	A to 100% to 130° C at 15% at 125-150°	A to 100% to 130° BC 20% @ 158°	AB 20-100% to 130	A	NR	A to 20% to 70°	A
A	AB to 70°	NO DATA	A to 200°	NO DATA	A to 212°	A to 176°	A	A to 140°	A to 70°	A to 70°
A	A to 70° A to 10% to 150°	AB to 70°	A Solution to 70°	ANR @ 70°	A to 100% to 140°	A to 100% to 140° AB to 100% to 200°	A	A to 100% to 70° AB to 100% to 200°	A to 70°	A to 100% to 70°
A	NO DATA	NO DATA	A to 70°	NO DATA	AB to 70°	AB to 70°	A	A to 70°	NO DATA	C
A	A	NO DATA	NO DATA	A	A	NR	A	A	B @ 70°	A
A	NO DATA	A to 30% to 70° AB to 100% to 70°	NO DATA	NO DATA	AB to 140°	A to 200°	A (Black 550) AB (White 571 & 592)	NO DATA	A	A (Black 550) AB (White 571 & 592)
A	C	B	A	B	A	A to 176°	A	AB to 104°	A to 70°	A
A to 90% (Boiling)	A to 3% to 70° NR at 10-100% at 70° NR at 30% at 70°	A to 25% to 70° B 30% 70-100° NR 80-100% @ 70°	A to 65% to 200° A to 35% to 300° AB at 20-30% at 122-200°	A to 50% to 70° A to 10% to 180° AB 20-30% at 122-200°	A to 158° A to 70% to 176° A to 50% to 212°	A to 90% to 70° A to 80% to 140° A 10% to 176°	A	A at 60% to 140° A at 50% to 140° A to 80% to 140°	A to 95% to 70° BC 95-98% @ 70° NR 95-100% @ 70°	A
A	A to 70° AB 70°-140°	NR	NR	NR	A	NR	A	NR @ 70°	NR	NR
A	A to 70°	NR	NR at 200°	NR at 70°	NR	NR	A	NR at 70°	B @ 70°	A
A to 100% to 500°	NO DATA	NO DATA	NO DATA	NO DATA	NR (Type A) A (HFLUOR)	A to 70°	A	NR	NO DATA	B @ 70°
A	AC at 70°	NO DATA	NR at 70°	NR at 70°	AB to 70°	NR	A	NR at 70°	B @ 70°	A
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	A
A	NR at 70°	NO DATA	B at 70-122°	A to 20% to 70° CNR 100% at 70° NR at 100% at 122°	NR	B at 70°	A	NR at 70°	BC @ 70°	A
A	AB at 70-180°	NR	NR at 70°	NR at 70°	NR	B	A	NR at 70°	NR	A
A	A to 70°	NO DATA	NO DATA	NO DATA	NR	A	A	A to 140°	B @ 70°	NO DATA
A	NR	AB to 70°	NR	NO DATA	NR	A to 160°	A	B to 100°	A to 70°	NR
NO DATA	NO DATA	NO DATA	NO DATA	NO DATA	A to 70°	NR	A	B @ 70° C @ 70° (dynamic)	NO DATA	NO DATA
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°
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°