

I. Introduction to Bray Material Selection Guide

The Bray Material Selection Guide for butterfly valve seats and discs is intended to be used exactly as its name implies – as a “guide” to aid in selection of the most cost effective butterfly valve materials. The information tabulated herein is based upon valve usage experience, data from elastomer, metal and other suppliers, data from customers and experienced elastomer compounders, and data from published standard references and literature. Though Bray believes these material recommendations to be valuable in selecting appropriate materials, one must recognize there are a variety of factors which exist for each specific field application. Some of the factors which must be considered are temperature, concentration, velocity, aeration, pressure, presence of other materials in the media, operating frequency, flow conditions, suspended abrasive particles, etc. Each of these factors may have a severe effect on the performance of the material. In addition, these factors can exist in field applications in an endless number of different combinations. As a result, it is not possible to develop a material recommendation chart which accounts for all the given combination of factors for each corrosive media. In addition, the grade of elastomers and the compound itself will determine elastomer performance. With this understanding, Bray explicitly states:

No representation, guarantee, warranty, or responsibility, express or implied, is made by the Bray Material Selection Guide herein because of the complexity and infinite combinations of concentration mixtures, flow conditions, temperatures, and other application factors possible in actual service. All responsibility regarding the suitability of materials chosen for an application lies solely with the customer and/or engineering company hired by the customer to assist him. Bray cannot guarantee the accuracy of this Material Selection Guide nor assume responsibility for the use thereof. If one is in doubt, it is always best to test first.

II. Materials Selection Guide – How to Use

a) Corrosive Media Column – All media are listed alphabetically. All oil, water, and plating solution media have been listed under their group heading for convenience. Some chemicals having a common laymen’s name have been referenced as such.

In a resilient seated butterfly like Bray’s design, the seat and disc are the only valve pans exposed to the line media. Bray’s selection of seat materials includes various elastomers and Teflon line elastomers. The variety of disc materials includes metal and elastomer, nylon, or Teflon covered metals. Thus, to best analyze the materials offered for a particular media application, Bray has grouped the materials into two groups – disc materials and seat/disc materials. Please note that since Bray offers elastomers and Teflon as both a seat or as a covering for discs, we have called the second grouping seat/disc materials

b) Physical State Column – This condition identifies the physical state of the corrosive media at room temperature as Gas, Liquid or Solid. **Note that almost all solids are conveyed in solution and only a few media such as cement, baking soda, flour, sugar, sulfur, etc. are pneumatically conveyed as solids.**

c) Condition Column – These columns define any unique condition parameters of the media for rating the materials. If no conditions are specified, it should be assumed the concentration is any level 0 – 100% and to allowable temperature is the seat material’s temperature rating except for nylon covered ductile iron. With regard to disc materials the nylon covered ductile iron disc is covered with Nylon 11. This material is rated for temperatures well over 200°F. For purposes of the Material Selection Guide, however, we have chosen to limit the A rating of Nylon covered discs in continual service to 140°F, with the exception of waters and oils. If one has an application over 140°F and would like to use nylon covered discs, please call Bray’s Inside Sales Department for further information on your specific application. **Please see example on Pg. 2.**

Corrosive Media	Physical State	Disc Materials						Seat/Disc Materials						
		Condition	DI	NDI	AL BR	316 SS	Coating	Condition	EPDM	NBR	FKM	PTFE S20/21	PTFE S22/23	UHMWPE
Stannous Chloride	Solid		N	A*	N	A		<10%, <140°F	B	A*	A	A	A	A
Stannous Chloride	Solid							<10%, <140°F	B	A*	A	A	A	A

Since no conditions are specified for Disc Materials, one should assume nylon covered ductile iron is the recommended material for content temperatures up to 140°F, and 316 stainless steel above 140°F. Of course, Nylon 11 may actually be suitable for temperatures much greater than 140°F, as stated previously (see Technical Bulletin 1009, Nylon Coatings Physical/Chemical Resistance Properties for additional information).

d) Disc Materials and Seat/Disc Materials – Under each grouping, the primary materials offered by Bray have been graded for their suitability to the media and conditions stated. The grading system is as follows:

A – Recommended, generally little or minor effect based on valve usage experience and recommendations from suppliers

B – May sometimes be used depending upon the conditions of application such as concentration and temperature. Testing is recommended before full-scale usage.

N – Not recommended for usage.

Blank – Insufficient evidence available

e) Recommended Materials for Disc and Seat/Disc – For each media and condition, we have placed an asterisk by the disc and seat material recommended by Bray. The material given an asterisk depends on two factors:

- 1) The material is rated A for compatibility with the media conditions;
- 2) It is the most economical Bray material offered as a disc in combination with the most economical seat material. For example:

Corrosive Media	Physical State	Disc Materials						Seat/Disc Materials						
		Condition	DI	NDI	AL BR	316 SS	Coating	Condition	EPDM	NBR	FKM	PTFE S20/21	PTFE S22/23	UHMWPE
Carbon Tetrachloride	Liquid	<75°F	N	B	B	A*			N	NBR	N	B	A*	N

If the carbon tetrachloride for your media is <75°F, you must choose a 316 disc, not AB, because Bray does not offer an AB disc with a Teflon seat. If the temperature is >75°F, one should not assume we do not have a suitable valve material code. Remember, Bray carries EPDM, BUNA-N, and Teflon molded disc-stems, thus one should select a Teflon disc stem and a Teflon seat for this application.

f) Coating of Disc Materials – When a disc coating is recommended, it will be noted in this column. The most economical Bray coating material will be noted with an asterisk. An example of reading the Material Selection Guide with a recommended disc coating is as follows:

Corrosive Media	Physical State	Disc Materials						Seat/Disc Materials						
		Condition	DI	NDI	AL BR	316 SS	Coating	Condition	EPDM	NBR	FKM	PTFE S20/21	PTFE S22/23	UHMWPE
Hydrochloric Acid	Liquid	<5%	N	A*	N	N		<15%, <75°F	A*	N	A	A	A	A
Hydrochloric Acid	Liquid	<5%	N	A*	N	N		<37%, <75°F	A*	N	B	A	A	A
Hydrochloric Acid	Liquid	<37%	N	B	N	N	A* EPDM		N	N	N	B	A*	

If one has a concentration of Hydrochloric Acid less than 5% at any temperature, Bray recommends an NDI disc and EPDM seat. If the condition is a concentration less than 37% and less than 75°F, then again an EPDM disc stem and seat are recommended. Finally, if the condition is one that is over 15% concentration at a temperature of 75°F or more, or the concentration is 37% or more at any temperature, Bray recommends a Series 22/23 Teflon disc stem and seat, or a disc an stem that has EPDM coating.

III. Bray Elastomers Description

The following is a general description of elastomers used by Bray. See Bray Technical Bulletins 1007, 1011, 1012, 1013, and 1014 for further information on seat materials.

Bray Elastomer Materials

Material	Ethylene Propylene	Butadiene Acrylonitrile Copolymer	Teflon Lined Ethylene Propylene Diene Monomer	Fluoro-Elastomer
ASTM Designation	EPDM	NBR		FKM
Bray Reference	EPDM	Buna-N	PTFE	FKM
Temperature Rating	250°F to -40°F	212°F to 0°F	250°F to -20°F	400°F to 0°F
Food Grade	Yes	Yes	Yes	No

IV. Bray Metal and Nylon Covered Disc Description:

Material	Specific Reference
Ductile Iron	ASTM A536 65-45-12
Nylon Covered Ductile Iron	(See Bray Technical Bulletin 1009)
Aluminum Bronze	ASTM B148-954
316 Stainless Steel	ASTM A351 CF8M

Corrosive Media	Physical State	Disc Materials						Seat/Disc Materials						
		Condition	DI	NDI	AIBR	316 SS	Coating	Condition	EPDM	NBR	FKM	PTFE S20/21	PTFE S22/23	UHMWPE
Acetaldehyde	Liquid	<75°F	N	A*	A	A			A*	N	N	A	A	N
Acetaldehyde	Liquid		N	B	A*	A			A*	N	N	A	A	N
Acetamide	Solid		N	B	N	A*		<100°F	A*	A	B	A	A	
Acetamide	Solid		N	B	N	A*			A*	N	B	A	A	
Acetic Acid	Liquid		N	N	N	B	A* PTFE	<100%, <160°F	N	N	N	A*	A	B
Acetic Acid	Liquid	<100%, <160°F	N	B	N	A*		<100%, <160°F	N	N	N	A*	A	B
Acetic Acid	Liquid	<100%, <160°F	N	B	N	A*		<50%, <70°F	N	N		A*	A	B
Acetic Acid	Liquid	<100%, <160°F	N	B	N	A*		Dilute, <200°F	A*	N		A	A	A
Acetic Acid	Liquid	<100%, <160°F	N	B	N	A*			N	N	N	N	A*	N
Acetic Acid	Liquid	<100%, <160°F	N	B	N	A*		<90%, <250°F	N	N	N	B	A*	N
Acetic Acid	Liquid		N	N	N	B	A* PTFE	<90%, <250°F	N	N	N	B	A*	N
Acetic Acid	Liquid		N	N	N	B	A* PTFE		N	N	N	N	A*	N
Acetic Acid	Liquid		N	N	N	B	A* PTFE	<50%, <70°F	N	N		A*	A	B
Acetic Acid	Liquid		N	N	N	B	A* PTFE	Dilute, <200°F	A*	N		A	A	A
Acetic Acid-Glacial	Liquid		N	N	B	B	A* PTFE	<160°F	N	N	N	A*	A	
Acetic Acid-Glacial	Liquid		N	N	B	B	A* PTFE		N	N	N	B	A*	
Acetic Acid-Vapors	Gas		N	B	N	B	A* PTFE		N	N	N	B	A*	
Acetic Acid-Vapors	Gas		N	B	N	B	A* PTFE	<70°F	B	N		A*	A	
Acetic Anhydride	Liquid		N	B	N	A*			N	N	N	A*	A	N
Acetic Anhydride	Liquid		N	B	N	A*		<70°F	B	N	N	A*	A	B
Acetone	Liquid	<75°F	A*	A	A	A		<200°F	N	N	N	A*	A	B
Acetone	Liquid		B	B	B	A*		<130°F	B	N	N	A*	A	A
Acetone	Liquid	<75°F	A*	A	A	A			N	N	N	B	A*	N
Acetone	Liquid		B	B	B	A*		<200°F	N	N	N	A*	A	B
Acetone	Liquid	<75°F	A*	A	A	A		<130°F	B	N	N	A*	A	A
Acetone	Liquid		B	B	B	A*			N	N	N	B	A*	N
Acetophenone	Liquid			B		A*			B	N	N	A*	A	B
Acetyle Acetone	Liquid			B		A*					N	A*	A	
Acetyle Chloride	Liquid	<75°F		B		A*			N	N	B	A*	A	

Corrosive Media	Physical State	Disc Materials						Seat/Disc Materials						
		Condition	DI	NDI	AIBR	316 SS	Coating	Condition	EPDM	NBR	FKM	PTFE S20/21	PTFE S22/23	UHMWPE
Acetylene	Gas		B	A*	N	A			B	B	A*	A	A	
Acetylene	Gas		B	A*	N	A		<160°F	A*	A	A*	A	A	
Acetylene	Gas	<75°F	A*	A*	N	A			B	B	A*	A	A	
Acetylene	Gas	<75°F	A*	A*	N	A		<160°F	A*	A	A*	A	A	
Acrylic Latex	Liquid		B	A*	B	A			N	NBR	N	A*	A	
Acrylonitrile	Liquid	<160°F	A*	B	AIBR	A			N	NBR	N	B	A*	
Acrylonitrile	Liquid					A*			N	NBR	N	B	A*	
Acrylonitrile	Liquid					A*		<160°F	N	NBR	N	A*	A	
Acrylonitrile	Liquid	<160°F	A*	B	A	A		<160°F	N	NBR	N	A*	A	
Air	Gas		A*	A*	A	A			A*	A		A	A	
Alum-Chrome (see Chromium Potassium Sulfate)														
Alum-Others	Solid	<150°F	N	A*	N	A		<150°F	A*	B		A	A	
Alum-Potassium (see Aluminum Potassium Sulfate)														
Alumina (activated, abrasive)	Solid		N	B	N	N	A* UHMWPE		B	B	B	N	N	A*
Aluminum Chloride	Solid		N	B	N	N	A* FKM		B	B	A*	A	A	B
Aluminum Chloride	Solid	<25%, <160°F	N	V	N	N	A* EPDM		B	B	A*	A	A	B
Aluminum Chloride	Solid		N	B	N	N	A* FKM	<25%, <160°F	A*	A	A*	A	A	A*
Aluminum Chloride	Solid	<25%, <160°F	N	V	N	N	A* EPDM	<25%, <160°F	A*	A	A*	A	A	A*
Aluminum Fluoride	Solid		N	B	N	N	A* UHMWPE		B	B	B	N	N	A*
Aluminum Hydroxide	Solid		N	A*	A	A								
Aluminum Hydroxide	Solid		N	A*	A	A								
Aluminum Hydroxide	Solid		N	A*	A	A			A*	A	A	A	A	A
Aluminum Nitrate	Solid		N	A*	N	A			B	N	A*	A	A	
Aluminum Nitrate	Solid		N	A*	N	A		<100°F	A*	A	A	A	A	
Aluminum Phosphate	Solid		N	A*	N	A			A*	A		A	A	
Aluminum Potassium Sulfate	Solid		N	A*		A								
Aluminum Potassium Sulfate	Solid		N	A*		A			A*	A	A	A	A	A
Aluminum Sulfate	Solid	<25%, <150°F	N	A*	N	A		<100°F	A*	A	A	A	A	A

Corrosive Media	Physical State	Disc Materials						Seat/Disc Materials						
		Condition	DI	NDI	AI BR	316 SS	Coating	Condition	EPDM	NBR	FKM	PTFE S20/21	PTFE S22/23	UHMWPE
Amines	Liquid		B	A*	B	A			B	N	N	A*	A	
Amino Acids	Liquid	<150°F	N	A*	N	A			N	N		A*	A	
Ammonia Gas	Gas			B		A*		100%, <140°F						A
Ammonia Gas	Gas			B		A*		<65%, <80°F	A*	A	N	A	A	A
Ammonia, Anhydrous	Gas		B	B	N	A*			A*	B	N	A	A	
Ammonia, Liquid	Liquid			B	N	A*			A*	B	N	A	A	
Ammonia, Solutions	Liquid		N	B	N	A*			B	B	N	A*	A	
Ammonium Bicarbonate	Solid		A*	A	N	A			A*	A		A	A	A
Ammonium Bifluoride	Liquid	100%, <75°F	A*	B	A			<25%, <160°F				A	A	
Ammonium Bisulfate	Solid		N	A*	N	A			B	N		A*	A	
Ammonium Bisulfite	Solid		N	N	N	N	A* PTFE	<160°F	N	N	A*	A	A	
Ammonium Bisulfite	Solid		N	N	N	N	A* PTFE		N	N	B	B	A*	
Ammonium Bisulfite	Solid	<160°F	N	B	N	B	A* FKM		N	N	B	B	A*	
Ammonium Bisulfite	Solid	<160°F	N	B	N	B	A* FKM	<160°F	N	N	A*	A	A	
Ammonium Bromide	Solid			B		A*						A*	A	A
Ammonium Carbonate	Solid		N	A*	N	A			A*	N	A	A	A	A
Ammonium Chloride	Solid		N	A*	N	N		<25%, <150°F	A*	A	A	A	A	A
Ammonium Dichromate	Solid		A*	B	A	A			A*	A	A	A	A	
Ammonium Diphosphate	Solid		N	B	N	B	A* EPDM		A*	A	A	A	A	
Ammonium Formate	Solid		N	B	N	B	A* PTFE					A*	A	
Ammonium Hydroxide	Liquid		N	A*	N	A		<30%, <250°F	N	N	B	A*	A	A
Ammonium Hydroxide	Liquid		N	A*	N	A		<100°F	A*	N		A	A	A
Ammonium Nitrate	Solid	<20%, <290°F	N	N	N	A*			B	B	B	A*	A	A
Ammonium Nitrate	Solid	<25%, <160°F	N	A*	N	A		<160°F	A*	B	A	A	A	A
Ammonium Nitrate	Solid	<25%, <160°F	N	A*	N	A			B	B	B	A*	A	A
Ammonium Nitrate	Solid	<200°F	N	B	N	A*		<160°F	A*	B	A	A	A	A
Ammonium Nitrate	Solid	<200°F	N	B	N	A*			B	B	B	A*	A	A
Ammonium Nitrate	Solid		N	N	N	B	A* PTFE	<160°F	A*	B	A	A	A	A
Ammonium Nitrate	Solid	<20%, <290°F	N	N	N	A*		<160°F	A*	B	A	A	A	A

Corrosive Media	Physical State	Disc Materials						Seat/Disc Materials						
		Condition	DI	NDI	AIBR	316 SS	Coating	Condition	EPDM	NBR	FKM	PTFE S20/21	PTFE S22/23	UHMWPE
Ammonium Nitrate	Solid		N	N	N	B	A* PTFE		B	B	B	A*	A	A
Ammonium Nitrate	Solid		N	A	N	A			A*	A	A	A	A	
Ammonium Persulfate	Solid		N	A	N	B			A*	N	A	A	A	A
Ammonium Phosphate	Solid	<25%, <150°F	N	B	N	A*		<150°F	A*	B	A	A	A	A
Ammonium Phosphate	Solid	<25%, <150°F	N	B	N	A*			B	B	B	A	A	A
Ammonium Phosphate, Monobasic	Solid		N	B	B	B	A* EPDM		A*	B	A	A*	A	
Ammonium Sulfate	Solid		N	A*	N	A			A*	A	A	A	A	A
Ammonium Sulfide	Solid		N	A*	N	A				N	A*	A	A	A
Ammonium Thiocyanate	Solid					A*			A*	B		A	A	A
Ammonium Thiocyanide	Solid		N	B		B	A* EPDM		B	B	A*	A	A	
Ammonium Thiocyanide	Solid		N	B		B	A* EPDM	<160°F	A*	A	A	A	A	
Ammonium Thiocyanide	Solid		N	N		N	A* FKM	<160°F	A*	A	A	A	A	
Ammonium Thiocyanide	Solid		N	N		N	A* FKM		B	B	A*	A	A	
Ammonium Thiosulfate	Solid		N	B	B	A*						A*	A	
Amyl Acetate	Liquid		N	A*	B	A			A*	N	N	A	A	N
Amyl Alcohol	Liquid		N	A*	A	A			A*	B	A	A	A	A
Amyl Borate	Liquid		N	B	B	B	A* PTFE		N	N	N	B	A*	
Amyl Borate	Liquid		N	B	B	B	A* PTFE	<160°F	N	B	B	A*	A	
Amyl Chloride	Liquid					A*			N	N	B	A*	A	N
Amyl Napthalene	Liquid					A*			N	N	B	A*	A	
Amyl Napthalene	Liquid					A*		<70°F	N	N	A*	A	A	
Aniline Dye	Liquid		B	B	N	A*			N	N		A*	A	
Aniline Hydrochloride	Solid		N	B	N	B	A* PTFE		N	N	N	B	A*	
Aniline Hydrochloride	Solid		N	B	N	B	A* PTFE	<160°F	B	B	B	A*	A	B
Animal Fats	Liquid	<140°F	A*	A	B	A		<140°F	B	A*	A	A	A	A
Animal Fats	Liquid		B	B	N	A*		<140°F	B	A*	A	A	A	A
Animal Fats	Liquid	<140°F	A*	A	B	A			N	B	B	B	A*	B
Animal Fats	Liquid		B	B	N	A*			N	B	B	B	A*	B
Antimony Trichloride	Liquid		N	B	N	N	A* PTFE			B		A*	A	A

Corrosive Media	Physical State	Disc Materials						Seat/Disc Materials						
		Condition	DI	NDI	AIBR	316 SS	Coating	Condition	EPDM	NBR	FKM	PTFE S20/21	PTFE S22/23	UHMWPE
Antimony Trichloride	Solid		N	B	N	N	A* PTFE		N	N	B	A*	A	A
Aqua Regia (Sulfuric-Nitric)	Liquid		N	B	N	N	A* PTFE		N	N	N	B	A*	
Aqua Regia (Sulfuric-Nitric)	Liquid		N	B	N	N	A* PTFE	<140°F	N	N	N	A*	A	B
Arsenic Acid	Solid		N	B	N	A*		<80%, <212°F	N			A*	A	A
Arsenic Acid	Solid		N	B	N	A*		<80%, <175°F	A*	A	A	A	A	A
Arsenic Acid Solution	Liquid	<140°F	N	B	N	A*		<140°F	A*	A	A	A	A	A
Arsenic Acid Solution	Liquid	<140°F	N	B	N	A*			B	B	B	A*	A	
Arsenic Acid Solution	Liquid		N	N	N	B	A* PTFE		B	B	B	A*	A	
Arsenic Acid Solution	Liquid		N	N	N	B	A* PTFE	<140°F	A*	A	A	A	A	A
Asphalt	Liquid	<75°F	B	N	N	B	A* UHMWPE	<160°F	N	N	N	N	N	A*
Baking Soda (See Sodium Bicarbonate)														
Barium Nitrate	Solid	<75°F		A*		A						A*	A	
Barium Nitrate	Solid	<30%, <212°F		B		B						A*	A	
Barium Carbonate	Solid			A*	B	A			A*	B	A	A	A	A
Barium Chloride	Solid	<25%, <160°F	N	A*	N	A		<25%, <160°F	A*	A	A	A	A	A
Barium Cyanide	Solid	<140°F	B	B	N	B	A* EPDM		B	N	A*	A	A	
Barium Cyanide	Solid	<140°F	B	B	N	B	A* EPDM	<140°F	A*	B	A	A	A	
Barium Cyanide	Solid		N	N	N	N	A* FKM		B	N	A*	A	A	
Barium Cyanide	Solid		N	N	N	N	A* FKM	<140°F	A*	B	A	A	A	
Barium Hydroxide	Solid	<50%, <75°F	B	A*	N	A		<160°F	A*	A	A	A	A	A
Barium Hydroxide	Solid	<50%, <200°F	N	A*	N	A		<160°F	A*	A	A	A	A	A
Barium Sulfate	Solid		B	A*	A	A			A*	A	A	A	A	A
Barium Sulfide	Solid	<25%, <150°F	N	A*	N	A			A*	A	A	A	A	A
Beer-Breweries	Liquid		N	A*	N	A			A*	A	A	A	A	A
Beet Sugar Liquors	Liquid		N	A*	A	A			A*	A	A	A	A	
Benzaldehyde	Liquid		B	B	B	B	A* PTFE	<160°F	N	N	N	A*	A	N
Benzaldehyde	Liquid	<160°F	A*	B	A	A		<160°F	N	N	N	A*	A	N
Benzaldehyde	Liquid	<80°F	A*	A*	A	A			N	N	N	B	A*	N
Benzaldehyde	Liquid		B	B	B	B	A* PTFE		N	N	N	B	A*	N

Corrosive Media	Physical State	Disc Materials						Seat/Disc Materials						
		Condition	DI	NDI	AIBR	316 SS	Coating	Condition	EPDM	NBR	FKM	PTFE S20/21	PTFE S22/23	UHMWPE
Benzaldehyde	Liquid	<160°F	A*	B	A	A		<80°F	A*	N	N	A	A	B
Benzaldehyde	Liquid		B	B	B	B	A* PTFE	<80°F	A*	N	N	A	A	B
Benzaldehyde	Liquid	<160°F	A*	B	A	A			N	N	N	B	A*	N
Benzaldehyde	Liquid	<80°F	A*	A	A	A		<160°F	N	N	N	A*	A	N
Benzaldehyde	Liquid	<80°F	A*	A	A	A		<80°F	A*	N	N	A	A	B
Benzene	Liquid		B	A*	A	A			N	N	N	A*	A	B
Benzenesulfonic Acid	Solid		N	N	N	B	A* PTFE		N	N	N	B	A*	
Benzenesulfonic Acid	Solid	<125°F	N	A*	N	B		<125°F	N	N	N	A*	A	A
Benzenesulfonic Acid	Solid	<125°F	N	A*	N	B			N	N	N	B	A*	
Benzenesulfonic Acid	Solid		N	N	N	B	A* PTFE	<125°F	N	N	N	A*	A	A
Benzoic Acid	Liquid	<170°F	N	A*	A	A			N	N	N	B	A*	
Benzoic Acid	Liquid	<170°F	N	A*	A	A		<170°F	N	N	N	A*	A	
Benzoic Acid	Liquid	<170°F	N	A*	A	A			N	N	N	A*	A	A
Benzoic Acid	Liquid		N	N	B	B	A* PTFE		N	N	N	B	A*	
Benzoic Acid	Liquid		N	N	B	B	A* PTFE		N	N	N	A*	A	A
Benzoic Acid	Liquid		N	N	B	B	A* PTFE	<170°F	N	N	N	A*	A	
Benzol	Liquid		B	B	B	A*			N	N	B	A*	A	
Benzoyl Chloride	Liquid	<75°F	A*	B		A			N	N	N	A*	A	
Benzoyl Chloride	Liquid		B	B		A*			N	N	N	A*	A	
Benzyl Alcohol	Liquid		B	B	B	A*			N	N	B	A*	A	A
Benzyl Benzoate	Liquid		B	A*	A	A			B	N	A*	A	A	
Benzyl Chloride	Liquid			A*		A			N	N	N	A*	A	
Bismuth Carbonate (Dry)	Solid		A*	A	A	A			A*	A	A	N	N	A
Black Sulfate Liquor (See Sodium Bisulfate)														
Black Sulfate Liquor (See Sodium Bisulfate)														
Blast Furnace Gas (Clean)	Gas		N	B	B	A*			N	A*		B	A	
Blast Furnace Gas (Unfiltered)	Gas		N	B	B	A*			N	A*	B	N	N	
Bleach Pulp Stock (See Pulp Stock)														

Corrosive Media	Physical State	Disc Materials						Seat/Disc Materials						
		Condition	DI	NDI	AIBR	316 SS	Coating	Condition	EPDM	NBR	FKM	PTFE S20/21	PTFE S22/23	UHMWPE
Bleaching Solutions	Liquid	<180°F	N	B	N	N	A* EPDM	<180°F	A*	N	A	A	A	
Bleaching Solutions	Liquid		N	N	N	N	A* PTFE	<180°F	A*	N	A	A	A	
Bleaching Solutions	Liquid		N	N	N	N	A* PTFE		B	N	B	A*	A	
Bleaching Solutions	Liquid	<180°F	N	B	N	N	A* EPDM		B	N	B	A*	A	
Borax (See Sodium Borate)														
Bordeau Mixture	Solid			B	B	A*			A*	B		A	A	
Boric Acid	Solid	<100°F	N	A*	A	A		<160°F	A*	A	A	A	A	A
Boric Acid	Solid	<212°F	N	B	A*	B			B	B	B	A*	A	B
Boric Acid	Solid	<100°F	N	A*	A	A			B	B	B	A*	A	B
Boric Acid	Solid	<212°F	N	B	A*	B		<160°F	A*	A	A	A	A	A
Brandy	Liquid		N	A*		A			A*	A	A	A	A	
Brine	Liquid		N	A*	B	A			A*	A		A	A	A
Brine - Chlorinated	Liquid		N	A*	N	N			A*	N		A	A	
Brine - Saturated	Liquid		N	A*	N	A			A*	A		A	A	
Bromine - Anhydrous	Solid		N	N	N	N	A* PTFE		N	N	N	B	A*	
Bromine - Anhydrous	Solid		N	N	N	N	A* PTFE		N	N	B	A*	A	A
Bromine - Wet	Liquid	<110°F	N	N	N	N	A* FKM		N	N	B	B	A*	N
Bromine - Wet	Liquid		N	N	N	N	A* PTFE		N	N	B	B	A*	N
Bromine - Wet	Liquid	<110°F	N	N	N	N	A* FKM	<110°F	N	N	A*	A	A	A
Bromine - Wet	Liquid		N	N	N	N	A* PTFE	<110°F	N	N	A*	A	A	A
Bromobenzene	Liquid		N	B	N	N			N	N	N	B	A*	
Bromobenzene	Liquid		N	B	N	N		<160°F	N	N	B	A*	A	
Bulk Materials - Dry Cement, Plastics, Flour, Sugar	Solid		N	N	N	N	A* UHMWPE		B	B	B	N	N	A*
Butadiene	Liquid	100%, <75°F	A*	A	A	A		<225°F	N	N	A*	A	A	N
Butadiene	Liquid		B	A*	A	A			N	N	B	N	A*	N
Butadiene	Liquid		B	A*	A	A		<225°F	N	N	A*	A	A	N
Butadiene	Liquid	100%, <75°F	A*	A	A	A			N	N	B	N	A*	N
Butane	Gas	<180°F	A*	A	A	A		<75°F	N	A*	A	A	A	A
Butane	Gas	<180°F	A*	A	A	A		<180°F	N	B	A*	A	A	A

Corrosive Media	Physical State	Disc Materials						Seat/Disc Materials						
		Condition	DI	NDI	AIBR	316 SS	Coating	Condition	EPDM	NBR	FKM	PTFE S20/21	PTFE S22/23	UHMWPE
Butane	Gas	<180°F	A*	A	A	A			N	N	B	B	A*	A
Butane	Gas					A*			N	N	B	B	A*	A
Butane	Gas					A*		<75°F	N	A*	A	A	A	A
Butane	Gas					A*		<180°F	N	B	A*	A	A	A
Butter	Liquid		N	A*	N	A			B	A*	A	A	A	A
Buttermilk	Liquid		N	A*	N	A			A*	A	A	A	A	
Butyl Acetate	Liquid		B	A*	B	A			N	B	N	A*	A	N
Butyl Acetate	Liquid		N	B	B	B	A* PTFE	<160°F	N	N	N	A*	A	
Butyl Acetate	Liquid		N	B	B	B	A* PTFE		N	N	N	B	A*	
Butyl Alcohol	Liquid	<75°F		A*	A	A			B	A*	B	A	A	A
Butyl Alcohol	Liquid			B	A*	A			B	A*	B	A	A	A
Butyl Alcohol	Liquid			B	A*	A		<80°F	B	A*	B	A	A	A
Butyl Alcohol	Liquid	<75°F		A*	A	A		<80°F	B	A*	B	A	A	A
Butyl Amine	Liquid		A*	B	N				N	N		A*	A	
Butyl Carbitol	Liquid			B		A*			A*	B	B	A	A	
Butyl Cellosolve	Liquid			A*		A			A*	N		A	A	
Butyl Chloride	Liquid	<75°F	B	A*	B	B						A*	A	
Butyl Ether	Liquid			B		A*			N	N	N	A*	A	
Butyl Oleate	Liquid			B		A*			B	N		A*	A	
Butyl Stearate	Solid			B		A*			B	B		A*	A	
Butylene (Gas)	Gas		B	B	B	A*		<140°F	N	N	B	A*	A	
Butylene (Gas)	Gas		B	B	B	A*			N	N	N	B	A*	
Butyraldehyde	Liquid		N	B	N	A*			N	N	N	A*	A	N
Butyric Acid	Liquid	<5%, <150°F	N	B		A*		<30%, <100°F	B	B	B	A*	A	B
Butyric Acid	Liquid	<5%, <150°F	N	B		A*			N	N	B	B	A*	N
Butyric Acid	Liquid		N	B		B	A* PTFE	<30%, <100°F	B	B	B	A*	A	B
Butyric Acid	Liquid		N	B		B	A* PTFE		N	N	B	B	A*	N
Cadmium Cyanide (Dry)	Solid			B	N	A*			N	N		A*	A	
Calcium Acetate	Solid			A*		A			A*	B		A	A	

Corrosive Media	Physical State	Disc Materials						Seat/Disc Materials						
		Condition	DI	NDI	AIBR	316 SS	Coating	Condition	EPDM	NBR	FKM	PTFE S20/21	PTFE S22/23	UHMWPE
Calcium Bisulfate	Solid		N	A*	N	A			A*	A	A	A	A	A
Calcium Bisulfite	Liquid							<160°F	N	A*		A	A	
Calcium Bisulfite	Liquid		N	A*	N	A			N	B		A*	A	
Calcium Bisulfite	Liquid		N	A*	N	A		<160°F	N	A*		A	A	
Calcium Bisulfite	Liquid								N	B		A*	A	
Calcium Carbonate	Solid		N	A*	N	A			B	A*	A	A	A	A
Calcium Carbonate	Solid		N	A*	N	A		<140°F	A*	A	A	A	A	A
Calcium Chlorate	Solid		N	A*	N	A			A*	A		A	A	A
Calcium Chloride	Solid		N	N	B	N	A* PTFE		N	N	N	B	A*	
Calcium Chloride	Solid	<25%, <150°F	N	A*	A	B			N	N	N	B	A*	
Calcium Chloride	Solid		N	N	B	N	A* PTFE	<30°F	N	N	N	A*	A	A
Calcium Chloride	Solid		N	N	B	N	A* PTFE	<25%, <150°F	A*	A	A	A	A	A
Calcium Chloride	Solid	<25%, <150°F	N	A*	A	B		<25%, <150°F	A*	A	A	A	A	A
Calcium Chloride	Solid	<25%, <150°F	N	A*	A	B		<30°F	N	N	N	A*	A	A
Calcium Fluophosphate	Solid		N	B	B	N	A* PTFE		N	N	N	B	A*	
Calcium Fluophosphate	Solid		N	B	B	N	A* PTFE	<160°F	N	N	B	A*	A	
Calcium Hydroxide (Lime)	Solid	<20%, <212°F	N	A*	A	A			A*	A				A
Calcium Hydroxide (Lime)	Solid	<75°F	N	A*	A	A			A*	A				A
Calcium Hypochlorite	Solid	<25%, <150°F	N	A*	N	N								
Calcium Hypochlorite	Solid	<25%, <150°F	N	A*	N	N			B	N	A*	A	A	A
Calcium Hypochlorite	Solid	<25%, <150°F	N	A*	N	N		<25%, <150°F	A*	N	A*	A	A	A
Calcium Nitrate	Solid		N	A*	N	N			A*	A	A*	A	A	
Calcium Nitrate	Solid		N	A*	N	N		<50%, <140°F						A
Calcium Sulfate	Solid		N	A*	N	B			B	B	A*	B	A	A
Calcium Sulfate	Solid	<10%, <75°F	N	A*	B	A			B	B	A*	B	A	A
Calcium Sulfide	Solid			A*		A			A*			A	A	
Cane Sugar Liquors	Liquid		N	A*	A	A			A*	A		A	A	
Carbamate			N	N	N	A*			N	N		A*	A	
Carbamate			N	N	N	A*		<10%, <80°F	A*	N		A	A	

Corrosive Media	Physical State	Disc Materials						Seat/Disc Materials						
		Condition	DI	NDI	AIBR	316 SS	Coating	Condition	EPDM	NBR	FKM	PTFE S20/21	PTFE S22/23	UHMWPE
Carbolic Acid	Liquid		N	B	N	A*		<140°F	N	N	A*	A	A	A
Carbolic Acid	Liquid		N	B	N	A*			N	N	B	B	A*	B
Carbon Bisulfide	Liquid		N	A*	N	A			A*	A	A	A	A	N
Carbon Dioxide - Gas, Dry	Gas		A*	A	A	A			A*	A	A	A	A	A
Carbon Dioxide - Liquid, Wet	Liquid		N	A*	N	A			A*	B	A	A	A	A
Carbon Disulfide	Liquid					A*		<140°F	N	N	A*	A	A	A
Carbon Disulfide	Liquid					A*			N	N	B	B	A*	
Carbon Disulfide	Liquid	<140°F	A*	A	A	A		<140°F	N	N	A*	A	A	A
Carbon Disulfide	Liquid	<140°F	A*	A	A	A			N	N	B	B	A*	
Carbon Monoxide	Gas	<100°F	A*	A	A	A			B	B	A*	A	A	A
Carbon Monoxide	Gas	<100°F	A*	A	A	A		<100°F	A*	A	A	A	A	A
Carbon Tetrachloride	Liquid		N	NDI	B	B	A* PTFE		N	N	N	B	A*	N
Carbon Tetrachloride	Liquid		N	NDI	B	B	A* PTFE	<50%	N	N	N	A*	A	N
Carbon Tetrachloride	Liquid	<75°F	N	B	B	A*			N	N	N	B	A*	N
Carbon Tetrachloride	Liquid	<75°F	N	B	B	A*		<50%	N	N	N	A*	A	N
Carbonated Water	Liquid			A*					B			A*	A	
Carbonic Acid	Liquid		N	NDI	N	A*			B	B	B	A*	A	B
Carbonic Acid	Liquid		N	NDI	N	A*		<175°F	A*	A	A	A	A	A
Carbonic Acid	Liquid	<100°F	N	A*	N	A		<175°F	A*	A	A	A	A	A
Carbonic Acid	Liquid	<100°F	N	A*	N	A			B	B	B	A*	A	B
Castor Oil (See Oil, Castor)														
Caustic Potash (See Potassium Hydroxide)														
Caustic Soda (See Sodium Hydroxide)														
Cellosolve	Liquid			A*		A			B	N		A*	A	
Cellosolve Acetate	Liquid			A*		A			B	N		A*	A	
Cellulose Acetate	Solid			A*	B	A			B	N	N	A*	A	A
Cellulose Viscose	Solid			A*								A*	A	
Cellulube	Liquid			A*	A	A			A*	N	B	A	A	

Corrosive Media	Physical State	Disc Materials						Seat/Disc Materials						
		Condition	DI	NDI	AIBR	316 SS	Coating	Condition	EPDM	NBR	FKM	PTFE S20/21	PTFE S22/23	UHMWPE
Cement	Solid		A*	A	A	A	A* UHMWPE		A*	A	B	N	N	A*
China Wood Oil (See Oil, China Wood)														
Chlorinated Solvents	Liquid		N	A*	N	B			N	N	A*	A	A	
Chlorine (Wet or Dry)	Liquid		N	N	N	N	A* PTFE		N	N	B	B	A*	N
Chlorine (Wet or Dry)	Liquid		N	N	N	N	A* PTFE	<70°F	N	N	A*	A	A	N
Chlorine (Wet or Dry)	Liquid	<70°F	N	N	N	N	A* FKM	<70°F	N	N	A*	A	A	N
Chlorine (Wet or Dry)	Liquid	<70°F	N	N	N	N	A* FKM		N	N	B	B	A*	N
Chlorine Dioxide	Gas			B		B			N	N	A*	A	A	A
Chlorine Water (See Water, Chlorine)														
Chlorine Water Saturated (See Water, Chlorine Saturated)														
Chloroacetic Acid	Solid	<25%, <160°F	N	A*	N	N			N	N	N	B	A*	N
Chloroacetic Acid	Liquid		N	N	B	N	A* PTFE	<160°F	B	N	N	A*	A	B
Chloroacetic Acid	Solid		N	N	N	N	A* PTFE	<25%, <160°F	A*	N	N	A	A	
Chloroacetic Acid	Solid		N	N	N	N	A* PTFE		N	N	N	B	A*	N
Chloroacetic Acid	Liquid		N	N	B	N	A* PTFE		N	N	N	B	A*	N
Chloroacetic Acid	Solid	<25%, <160°F	N	A*	N	N		<25%, <160°F	A*	N	N	A	A	
Chloroacetone	Liquid		B	B	B	A*			N	N		A*	A	N
Chlorobenzene	Liquid		N	B	B	A*		<3%, <75°F	N	N	B	A*	A	
Chlorobenzene	Liquid		N	B	B	A*		<160°F	N	N	N	A*	A	
Chlorobenzene	Liquid		N	B	B	A*			N	N	N	B	A*	
Chlorobromomethane	Liquid		N	B	N	N	A* PTFE	<140°F	B	N	B	A*	A	
Chlorobromomethane	Liquid		N	B	N	N	A* PTFE		N	N	N	B	A*	
Chlorobutadiene	Liquid		N	B	B	A*		<70°F	N	N	A*	A	A	
Chlorobutadiene	Liquid			B	B	A*			N	N	B	A*	A	
Chloroform	Liquid		N	B	B	A*			N	N	A*	A	A	N
Chlorosulfonic Acid (Wet or Dry)	Liquid		N	B	N	N	A* PTFE	<160°F	N	N	N	A*	A	N
Chlorosulfonic Acid (Wet or Dry)	Liquid		N	B	N	N	A* PTFE		N	N	N	B	A*	N

Corrosive Media	Physical State	Disc Materials						Seat/Disc Materials						
		Condition	DI	NDI	AIBR	316 SS	Coating	Condition	EPDM	NBR	FKM	PTFE S20/21	PTFE S22/23	UHMWPE
Chlorotoluene	Liquid		N	N	N	N	A* PTFE		N	N	B	B	A*	
Chlorotoluene	Liquid	<200°F	N	B	N	B	A* FKM	<200°F	N	N	A*	A	A	
Chlorotoluene	Liquid	<200°F	N	B	N	B	A* FKM		N	N	B	B	A*	
Chlorotoluene	Liquid		N	N	N	N	A* PTFE	<200°F	N	N	A*	A	A	
Chlorox	Liquid		N	B	B	A*			B	B	A*	A	A	
Chromic Acid	Liquid		N	N	N	B	A* PTFE	<140°F	N	N	B	A*	A	B
Chromic Acid	Liquid		N	N	N	B	A* PTFE		N	N	N	B	A*	N
Chromium Potassium Sulfate	Solid		N	A*		A			A*	B		A	A	A
Cider	Liquid		N	A*	A	A			A*	A	A	A	A	A
Citric Acid	Solid	<100°F	N	A*	B	A		<50%, <200°F	A*	A	A	A	A	B
Citric Acid	Solid	<50%, <200°F	N	B	N	A*		<50%, <200°F	A*	A	A	A	A	B
Citric Acid	Solid	<100°F	N	A*	B	A			N	B	B	B	A*	B
Citric Acid	Solid	<50%, <200°F	N	B	N	A*			N	B	B	B	A*	B
Citric Acid	Solid		N	N	N	B	A* PTFE	<50%, <200°F	A*	A	A	A	A	B
Citric Acid	Solid		N	N	N	B	A* PTFE		N	B	B	B	A*	B
Citrus Juices	Liquid		N	B	B	A*			A*	A	A	A	A	
Cobalt Chloride	Solid		N	B	B	B	A* PTFE		N	N	N	B	A*	
Cobalt Chloride	Solid		N	B	B	B	A* PTFE	<160°F	B	B	B	A*	A	
Coconut Oil (See Oil, Coconut)														
Cod Liver Oil (See Oil, Cod Liver)														
Coffee (Dry or Wet)	Solid		N	A*	A	A			A*	A	A	A	A	A
Coke Oven Gas	Gas		B	B	N	A*			N	B		A*	A	N
Cola Syrup	Liquid		N	B	N	A*			A*	B		A	A	A
Cooking Oil (See Oil - Cooking)														
Copper Acetate	Solid		N	B	N	A*			N	N		A*	A	
Copper Arsenate	Solid			B	B	A*			A*	A	A	A	A	
Copper Chloride (Dry)	Solid		N	A*	N	N		<180°F	A*	A	A	A	A	A
Copper Cyanide	Solid	<10%, <212°F		B		A*			A*	A	A	A	A	A

Corrosive Media	Physical State	Disc Materials						Seat/Disc Materials						
		Condition	DI	NDI	AIBR	316 SS	Coating	Condition	EPDM	NBR	FKM	PTFE S20/21	PTFE S22/23	UHMWPE
Copper Nitrate	Solid	<5%, <75°F	N	B	N	A*		A*	A	A	A	A	A	A
Copper Nitrate	Solid	<5%, <75°F	N	B	N	A*								
Copper Nitrate	Solid	<50% Soln.	N	B	N	A*								
Copper Nitrate	Solid	<50% Soln.	N	B	N	A*		A*	A	A	A	A	A	A
Copper Plating Soln.	Liquid		N	B	N	A*		A*	B	A	A	A		
Copper Sulfate	Solid	<10%, <212°F	N	A*	N	B		<25%, <150°F	A*	B	A	A	A	A
Copper Sulfate	Solid	<10%, <212°F	N	A*	N	B		<70°F	A*	A		A	A	A
Copper Sulfate	Solid	<25%, <150°F	N	A*	N	B		<70°F	A*	A		A	A	A
Copper Sulfate	Solid	<25%, <150°F	N	A*	N	B		<25%, <150°F	A*	B	A	A	A	A
Corn Oil (See Oil - Corn)														
Cottonseed Oil (See Oil - Cottonseed)														
Cresols	Liquid			N		A*			N	N		A*	A	N
Cresote Oil (See Oil - Cresote)														
Cresylic Acid	Liquid		N	N	N	A*		<160°F	N	N	B	A*	A	A
Cresylic Acid	Liquid		N	N	N	A*			N	N	N	B	A*	B
Crude Oil - Sour (See Oil - Sour Crude)														
Crude Oil - Sweet (See Oil - Sweet Crude)														
Cupric Sulfate (See Copper Sulfate)	Solid													
Cyanide Solution	Liquid		N	B	N	A*			A*	N		A	A	
Cyanogen Gas	Gas	<75°F		B		A*		<100°F	A*	N		A	A	
Cyclohexane	Liquid		B	B	B	A*			N	N	B	B	A*	B
Cyclohexane	Liquid		B	B	B	A*		<180°F	N	B	A*	A	A	A
Cyclohexane	Liquid	<75°F	B	A*	A	A			N	N	B	B	A*	B
Cyclohexane	Liquid	<75°F	B	A*	A	A		<180°F	N	B	A*	A	A	A
Cyclohexanol	Liquid			A		A			N	B	A*	A	A	A
Cyclohexanone	Liquid	100%, <75°F		A*		A			N	N	N	A*	A	N
Cyclohexanone	Liquid	100%, <75°F		A*		A								
Cyclohexanone	Liquid			A*		B			N	N	N	A*	A	N

Corrosive Media	Physical State	Disc Materials						Seat/Disc Materials						
		Condition	DI	NDI	AIBR	316 SS	Coating	Condition	EPDM	NBR	FKM	PTFE S20/21	PTFE S22/23	UHMWPE
Cyclohexanone	Liquid			A*		B								
DDT Intermediates	Liquid			A*		A			N	B		A*	A	
Decalin	Liquid			A*		A			N	N	A*	A	A	N
Detergent Solutions	Liquid		B	A*	A	A			A*	A	A	A	A	A
Developing Solutions (Photography)	Liquid	<75°F	N	A*	N	A			B	A*		A	A	A
Diacetone Alcohol	Liquid	<100°F	A*	A	A	A			A*	N	N	A	A	
Diacetone Alcohol	Liquid		A*	B	A	A			A*	N	N	A	A	
Dibenzyl Ether	Liquid			B		A*			B	N	N	A*	A	
Dibenzyl Sebacate	Liquid			B		A*			B	N		A*	A	
Dibutyl Amine	Liquid			B		A*			N	N	N	A*	A	
Dibutyl Ether	Liquid			B		A*			N	N		A*	A	
Dibutyl Phthalate	Liquid			B		A*			A*	N	B	A	A	B
Dibutyl Sebacate	Liquid			B		A*			B	N	N	A*	A	
Dichlorobenzene (Ortho- and Para-)	Liquid		N	B	N	B	A* PTFE	<160°F	N	N	B	A*	A	N
Dichlorobenzene (Ortho- and Para-)	Liquid		N	B	N	B	A* PTFE		N	N	N	B	A*	N
Dichloroethane (Dry)	Liquid		N	B	B	A*			N	N		A*	A	
Dichlorohexylamine	Liquid			B		A*			N	N	N	A*	A	
Dichlorophenol	Liquid			B		A*			N	N	B	A*	A	
Diesel Fuel	Liquid		A*	A	A	A			N	A*	A	A	A	A
Diethanolamine	Liquid		N	N	N	B	A* PTFE		B	N	N	A*	A	
Diethanolamine	Liquid		N	N	N	B	A* PTFE	<160°F	A*	B	N	A	A	
Diethanolamine	Liquid	<75°F	A*	A	N	A			B	N	N	A*	A	
Diethanolamine	Liquid	<212°F	N	N	N	A*		<160°F	A*	B	N	A	A	
Diethanolamine	Liquid	<75°F	A*	A	N	A		<160°F	A*	B	N	A	A	
Diethanolamine	Liquid	<212°F	N	N	N	A*			B	N	N	A*	A	
Diethyl Ether	Liquid			B		A*			N	N	N	A*	A	N
Diethyl Sebacate	Liquid			B		A*			B	N	N	A*	A	
Diethylamine	Liquid			B	N	A*			N	B	N	A*	A	

Corrosive Media	Physical State	Disc Materials						Seat/Disc Materials						
		Condition	DI	NDI	AIBR	316 SS	Coating	Condition	EPDM	NBR	FKM	PTFE S20/21	PTFE S22/23	UHMWPE
Diethylene Glycol	Liquid		A*	A	A	A			A*	A	A	A	A	A
Diisopropyl Ketone	Liquid			A*		A			B	N	N	A*	A	
Dimethyl Aniline	Liquid			B		A*			B	N	B	A*	A	
Dimethyl Formamide	Liquid			B		A*								
Dimethyl Formamide	Liquid			B		A*			N	B	N	A*	A	
Dimethyl Formamide	Liquid	<100°F		A*		A								
Dimethyl Formamide	Liquid	<100°F		A*		A			N	B	N	A*	A	
Dinitrobenzene	Liquid	<70°F	N	N	N	B	A* FKM	<70°F	N	N	A*	A	A	
Dinitrobenzene	Liquid	<70°F	N	N	N	B	A* FKM		N	N	B	B	A*	
Dinitrobenzene	Liquid		N	N	N	N	A* PTFE	<70°F	N	N	A*	A	A	
Dinitrobenzene	Liquid		N	N	N	N	A* PTFE		N	N	B	B	A*	
Dinitrotoluene	Solid		N	B	B	B	A* PTFE		N	N	N	B	A*	
Dinitrotoluene	Solid		N	B	B	B	A* PTFE	<170°F	N	N	B	A*	A	
Diocetyl Phthalate	Liquid	<140°F		A*		A			N	N	N	B	A*	
Diocetyl Phthalate	Liquid		N	N	N	B	A* PTFE		N	N	N	B	A*	
Diocetyl Phthalate	Liquid		N	N	N	B	A* PTFE	<140°F	N	N	B	A*	A	A
Diocetyl Phthalate	Liquid	<140°F		A*		A		<140°F	N	N	B	A*	A	A
Dioxane	Liquid		B	B	B	A*			N	N	N	A*	A	
Dioxolane	Liquid			B		A*			N	N	A*	A	A	
Dipentene	Liquid			B		A*		<160°F	N	B	A*	A	A	
Dipentene	Liquid			B		A*			N	N	B	B	A*	
Diphenyl	Solid	<212°F	B	B	B	A*			N	N	A*	A	A	
Diphenyl Oxide	Solid	<140°F	B	B	B	B	A* FKM	<140°F	N	N	A*	A	A	
Diphenyl Oxide	Solid		N	N	N	N	A* PTFE		N	N	B	B	A*	
Diphenyl Oxide	Solid		N	N	N	N	A* PTFE	<140°F	N	N	A*	A	A	
Diphenyl Oxide	Solid	<140°F	B	B	B	B	A* FKM		N	N	B	B	A*	
Disodium Phosphate	Solid		N	B	N	A*				A*	A	A	A	A
Dowtherm	Liquid		B	B	B	A*			N	N		A*	A	
Drilling Mud	Liquid		N	N	N	N	A* UHMWPE		N	B	N	N	N	A*

Corrosive Media	Physical State	Disc Materials						Seat/Disc Materials						
		Condition	DI	NDI	AIBR	316 SS	Coating	Condition	EPDM	NBR	FKM	PTFE S20/21	PTFE S22/23	UHMWPE
Drycleaning Fluids	Liquid		B	A*	N	A			N	N		A*	A	
Dyes	Liquid		A*	B	A	A			N	N		A*	A	
Enamel	Liquid			B	A*	A			N			A*	A	
Epichlorohydrin	Liquid		N	A*	N	A			N	N	N	A*	A	
Epoxy Resins	Liquid			A*		A			N	N		A*	A	
Ethane	Gas		A*	A	A	A			N	A*		A	A	
Ethane Ethanolamine	Liquid			B		A*			B	B	N	A*	A	A
Ethy Acetate	Liquid		N	A*	A	A			N	N	N	A*	A	B
Ethyl Acetoacetate	Liquid			B	A	A			N	N		A*	A	
Ethyl Alcohol	Liquid		N	A*	A	A	<180°F		A*	A*	B	A	A	A
Ethyl Alcohol	Liquid		N	A*	A	A			A*	N	B	A	A	A
Ethyl Benzene	Liquid		A*	A	A	A	100%, <170°F		N	N	A*	A	A	
Ethyl Benzene	Liquid		A*	A	A	A			N	N	B	B	A*	
Ethyl Benzoate	Liquid		A*	A	A	A			B			A*	A	
Ethyl Butyrate	Liquid		A*	A	A	A				N		A*	A	B
Ethyl Cellosolve	Liquid			A*					B			A*	A	
Ethyl Cellulose	Solid			A*		A			B	N		A*	A	
Ethyl Chloride (Dry)	Gas		B	A*	B	A			A*	B	B	A	A	N
Ethyl Chloride (Wet)	Gas		N	A*	B	B			A*	B	B	A	A	N
Ethyl Ether	Liquid		N	B	B	A*			N	N	N	A*	A	N
Ethyl Formate	Liquid			A*	A	A			B	N	N	A*	A	N
Ethyl Mercaptan	Liquid			B		A*			N	N		A*	A	
Ethyl Oxalate	Liquid			B		A*			A*	N		A	A	
Ethyl Pentachlorobenzene	Liquid			B		A*	<170°F		N	N		A*	A	
Ethyl Pentachlorobenzene	Liquid			B		A*			N	N		B	A*	
Ethyl Silicate	Liquid			A*		A			A*	B	A*	A	A	
Ethylene	Gas		A*	A	A	A	<70°F		N	A*	A*	A	A	
Ethylene	Gas		A*	A	A	A	<200°F		N	A*	B	A	A	
Ethylene	Gas		A*	A	A	A			N	B	N	B	A*	

Corrosive Media	Physical State	Disc Materials						Seat/Disc Materials						
		Condition	DI	NDI	AIBR	316 SS	Coating	Condition	EPDM	NBR	FKM	PTFE S20/21	PTFE S22/23	UHMWPE
Ethylene Bromide	Liquid			B		A*			N	N	N	B	A*	
Ethylene Bromide	Liquid			B		A*		<200°F	N	N	B	A*	A	
Ethylene Chloride	Liquid			B		A*		<180°F	N	N	B	A*	A	
Ethylene Chloride	Liquid			B		A*			N	N	N	B	A*	
Ethylene Chlorohydrin	Liquid			N		A*		<70°F	B	N	A*	A	A	
Ethylene Chlorohydrin	Liquid			N		A*		<180°F	N	N	B	A*	A	
Ethylene Chlorohydrin	Liquid			N		A*			N	N	B	B	A*	
Ethylene Diamine	Liquid			B		A*			B	B	N	A*	A	
Ethylene Diamine	Liquid			B		A*		<100°F	A*	A	N	A	A	
Ethylene Dichloride	Liquid		N	B	N	B	A* PTFE	<140°F	N	N	N	A*	A	N
Ethylene Dichloride	Liquid		N	B	N	B	A* PTFE		N	N	N	B	A*	N
Ethylene Glycol	Liquid	<100°F	A*	A	A	A			A*	A	A	A	A	A
Ethylene Glycol	Liquid		B	A*	A	A			A*	A	A	A	A	A
Ethylene Oxide	Gas		N	B	N	A*			N	N	N	B	A*	B
Ethylene Oxide	Gas	<10°F	B	A*	N	A		<140°F	N	N	N	A*	A	A
Ethylene Oxide	Gas	<10°F	B	A*	N	A			N	N	N	B	A*	B
Ethylene Oxide	Gas		N	B	N	A*		<140°F	N	N	N	A*	A	A
Ethylene Trichloride	Liquid		N	B	N	A*		<180°F	N	N	B	B	A*	
Ethylene Trichloride	Liquid		N	B	N	A*			N	N	A*	A	A	
Fatty Acids	Liquid	<180°F	N	A*	N	A		<44%, <180°F	N	A*	A	A	A	A
Fatty Acids	Liquid	<180°F	N	A*	N	A		<44%, <180°F	N	B	A*	A	A	A
Fatty Acids	Liquid	<180°F	N	A*	N	A		<44%, <180°F	N	N	B	B	A*	B
Fatty Acids	Liquid		N	B	N	A*		<44%, <180°F	N	B	A*	A	A	B
Fatty Acids	Liquid		N	B	N	A*		<44%, <180°F	N	B	A*	A	A	A
Fatty Acids	Liquid		N	B	N	A*		<44%, <180°F	N	A*	A	A	A	A
Fatty Acids	Liquid	<180°F	N	A*	N	A		<44%, <180°F	N	B	A*	A	A	B
Fatty Acids	Liquid		N	B	N	A*		<44%, <180°F	N	N	B	B	A*	B
Ferric Chloride	Solid		N	B	N	N	A* PTFE		B	N	B	A	A	
Ferric Chloride	Solid	<25%, <150°F	N	A*	N	N			B	N	B	A	A	

Corrosive Media	Physical State	Disc Materials						Seat/Disc Materials						
		Condition	DI	NDI	AIBR	316 SS	Coating	Condition	EPDM	NBR	FKM	PTFE S20/21	PTFE S22/23	UHMWPE
Ferric Chloride	Solid		N	B	N	N	A* PTFE	<25%, <200°F	A*	B	A	A	A	A
Ferric Chloride	Solid	<25%, <150°F	N	A*	N	N		<25%, <200°F	A*	B	A	A	A	A
Ferric Hydroxide	Liquid	<75°F	N	A*	N	A						A*	A	
Ferric Nitrate	Solid							<25%, <212°F	A*	B	A	A	A	A
Ferric Nitrate	Solid		N	A*	N	B			B	B	A*	A	A	A
Ferric Nitrate	Solid		N	A*	N	B		<25%, <212°F	A*	B	A	A	A	A
Ferric Nitrate	Solid								B	B	A*	A	A	A
Ferric Sulfate	Solid							<50%, <160°F	A*	A	A	A	A	A
Ferric Sulfate	Solid		N	A*	N	A		<50%, <160°F	A*	A	A	A	A	A
Ferric Sulfate	Solid		N	A*	N	A			B	B		A*	A	
Ferric Sulfate	Solid								B	B		A*	A	
Ferrous Ammonium Sulfate	Solid			A*							A*	A	A	
Ferrous Chloride	Solid		N	A*	N	N			A*	A	A	A	A	A
Ferrous Sulfate	Solid		N	A*	N	B								
Ferrous Sulfate	Solid		N	A*	N	B			A*	B	A	A	A	A
Ferrous Sulfate	Solid	<10%, <75°F	N	A*	N	A								
Ferrous Sulfate	Solid	<10%, <75°F	N	A*	N	A			A*	B	A	A	A	A
Fish Oil (See Oil - Fish)														
Fluorine Gas (Dry)**	Gas		N	N	N	A*		<140°F	N	N	A*	N	N	
Fluorine Gas (Dry)**	Gas		N	N	N	A*								N
Flue Gas	Gas		N	N	N	N	A* PTFE		N	B	B	B	A*	
Flue Gas	Gas	<160°F	N	B	N	B	A* NBR		N	B	B	B	A*	
Flue Gas	Gas	<160°F	N	B	N	B	A* NBR	<160°F	N	A*	A	A	A	
Flue Gas	Gas		N	N	N	N	A* PTFE	<160°F	N	A*	A	A	A	
Fluoboric Acid	Liquid			N		N	A* PTFE	<140°F	B	B	B	A*	A	
Fluoboric Acid	Liquid			N		N	A* PTFE	<140°F	A*	A	A	A	A	A
Fluoboric Acid	Liquid	<30%, <75°F		B		A*		<140°F	A*	A	A	A	A	A
Fluoboric Acid	Liquid	<30%, <75°F		B		A*		<140°F	B	B	B	A*	A	
Fluoboric Acid	Liquid	<140°F		N		B	A* EPDM	<140°F	A*	A	A	A	A	A

Corrosive Media	Physical State	Disc Materials						Seat/Disc Materials						
		Condition	DI	NDI	AIBR	316 SS	Coating	Condition	EPDM	NBR	FKM	PTFE S20/21	PTFE S22/23	UHMWPE
Fluoboric Acid	Liquid	<140°F		N		B	A* EPDM	<140°F	B	B	B	A*	A	
Fluorobenzene	Liquid			B		A*		<180°F	N	N	A*	A	A	
Fluorobenzene	Liquid			B		A*			N	N	B	B	A*	
Fluosilicic Acid	Liquid		N	N	B	A*		<140°F	A*	A	A	A	A	A
Fluosilicic Acid	Liquid		N	N	B	A*			B	B	B	A*	A	
Formaldehyde	Gas	<140%, <212°F	N	B	B	A*		<40°F	A*	N		A	A	A
Formaldehyde	Gas	<140%, <212°F	N	B	B	A*			N	N	N	A*	A	B
Formaldehyde	Gas	<100%, <250°	N	B	B	A*		<40°F	A*	N		A	A	A
Formaldehyde	Gas	<100%, <250°	N	B	B	A*			N	N	N	A*	A	B
Formamide	Solid			B		A*				B	B	A*	A	
Formic Acid	Liquid		N	N	N	N	A* PTFE		N	N	N	B	A*	
Formic Acid	Liquid	<90%, <212°F	N	N	B	B	A* PTFE	<140°F	N	N	N	A*	A	A
Formic Acid	Liquid	<90%, <212°F	N	N	B	B	A* PTFE		N	N	N	B	A*	
Formic Acid	Liquid		N	N	N	N	A* PTFE	<140°F	N	N	N	A*	A	A
Freon 11	Gas	<160°F	N	B	A*	A			N	B	B	B	A*	
Freon 11	Gas		N	N	B	A*			N	B	B	B	A*	
Freon 11	Gas	<140°F	N	B	A*	A		<160°F	N	A*	B	A	A	
Freon 11	Gas		N	N	B	A*		<160°F	N	A*	B	A	A	
Freon 113	Gas		N	B	A*	A			N	A*	A	A	A	
Freon 114	Gas		N	B	A*	A			B	A*	A	A	A	
Freon 114Bs	Gas		N	B	A*	A			N	B	A*	A	A	
Freon 115	Gas		N	B	A*	A				A*	A	A	A	
Freon 12	Gas		N	B	A*	A			B	A*	A	A	A	
Freon 13	Gas		N	B	A*	A			B	A*	A	A	A	
Freon 13B1	Gas		N	B	A*	A			B	A*		A	A	
Freon 21	Gas		N	B	A*	A			N	N	N	A*	A	
Freon 22	Gas		N	B	A*	A			N	N	N	A*	A	
Freon C318	Gas		N	B	A*	A			B	A*	B	A	A	
Fruit Juices	Liquid		N	A*	B	A			A*	A	A	A	A	A

Corrosive Media	Physical State	Disc Materials						Seat/Disc Materials						
		Condition	DI	NDI	AIBR	316 SS	Coating	Condition	EPDM	NBR	FKM	PTFE S20/21	PTFE S22/23	UHMWPE
Fuel Oil (See Oil - Fuel)														
Fumaric Acid	Solid		A*	B					N	N	B	B	A*	
Fumaric Acid	Solid		A*	B				<70°F	B	A*	A	A	A	B
Fumaric Acid	Solid		A*	B				<160°F	N	B	A*	A	A	
Furan	Liquid	<140°F	N	B		A*			N	N	N	A*	A	
Furan	Liquid		N	N		B	A* PTFE		N	N	N	A*	A	
Furfural	Liquid	<100°F	N	N	B	A*			B	N	N	A*	A	N
Gallic Acid	Solid	<75°F	N	B	N	A*		<120°F	N	N	A*	A	A	A
Gallic Acid	Solid	<120°F	N	B	N	B	A* FKM	<120°F	N	N	A*	A	A	A
Gallic Acid	Solid	<75°F	N	B	N	A*			N	N	B	B	A*	A
Gallic Acid	Solid		N	N	N	N	A* PTFE	<120°F	N	N	A*	A	A	A
Gallic Acid	Solid		N	N	N	N	A* PTFE		N	N	B	B	A*	A
Gallic Acid	Solid	<120°F	N	B	N	B	A* FKM		N	N	B	B	A*	A
Gas - Coke Oven	Gas		B	B	N	A*			N	A*	A	A	A	N
Gas - Furnace	Gas		B	B	A*	A			N	A*	A	A	A	
Gas - Manufacturer	Gas		B	B	A*	A			N	A*	A	A	A	
Gas - Natural	Gas		B	A*	A	A			N	A*	A	A	A	
Gasoline - Ethyl	Liquid		B	A*	A	A			N	N		A*	A	
Gasoline - Regular	Liquid		B	A*	A	A		<85°F	N	A*		A	A	B
Gasoline - Regular	Liquid		B	A*	A	A			N			A*	A	N
Gasoline - Regular	Liquid							<85°F	N	A*		A	A	B
Gasoline - Regular	Liquid								N			A*	A	N
Gasoline - Unleaded with MTBE	Liquid		N	N	A*	A			N	N		B	A*	
Gelatine	Solid		N	A*	A	A			A*	A	A	A	A	A
Glucose	Liquid			A*	A	A			A*	A	A	A	A	A
Glue	Liquid			B	A*	A			A*	A	A	A	A	
Glycerine	Liquid	<100°F	B	A*	A	A			A*	A	A	A	A	A
Glycerine	Liquid	<100°F	B	A*	A	A								
Glycerine	Liquid		B	B	A*	A			A*	A	A	A	A	A

Corrosive Media	Physical State	Disc Materials						Seat/Disc Materials						
		Condition	DI	NDI	AIBR	316 SS	Coating	Condition	EPDM	NBR	FKM	PTFE S20/21	PTFE S22/23	UHMWPE
Glycerine	Liquid		B	B	A*	A								
Glycols	Liquid		A*	A	A	A			A*	A	A	A	A	A
Grease	Liquid		A*	A	A	A			N	A*	A	A	A	
Green Sulfate Liquors	Liquid		N	B	N	A*			A*	B		A	A	
Halowax Oil (See Oil - Halowax)														
Helium Gas	Gas			A*	A	A			A*	A	A	A	A	
Heptane	Liquid		A*	A	A	A			N	B	A*	A	A	B
Heptane	Liquid		A*	A	A	A	<70°F		N	A*	A	A	A	A
Hexane	Liquid		B	A*	A	A			N	A*	A	A	A	N
Hexane	Liquid		B	A*	A	A								
Hexane	Liquid	100%, <75°F	A*	A	A	A								
Hexane	Liquid	100%, <75°F	A*	A	A	A			N	A*	A	A	A	N
Hexyl Alcohol	Liquid		A*	A	A	A			N	A*	A	A	A	
Hexylene Glycol	Liquid			A*	A	A			N	A*	A	A	A	
Hydraulic Fluid (Pydraul)	Liquid			B	A*	A			N	N		A*	A	
Hydraulic Oil - Cellulube (See Oil - Hydraulic, Cellulube)														
Hydraulic Oil - Petroleum Base (See Oil - Hydraulic, Petroleum Base)														
Hydraulic Oil - Water Base (See Oil - Hydraulic, Water Base)														
Hydrazine	Liquid		N	A*	N	A		<75°F	A*	B		A	A	
Hydrobromic Acid	Liquid	<40%, <160°F	N	N	N	N	A* EPDM	<40%, <160°F	A*	N	B	A	A	A
Hydrobromic Acid	Liquid	<40%, <160°F	N	N	N	N	A* EPDM		N	N	N	B	A*	
Hydrobromic Acid	Liquid		N	N	N	N	A* PTFE		N	N	N	B	A*	
Hydrobromic Acid	Liquid		N	N	N	N	A* PTFE	<40%, <160°F	A*	N	B	A	A	A
Hydrocarbons (Aromatic)	Liquid		A*	A	N	A			N	N		A*	A	
Hydrochloric Acid	Liquid		N	N	N	N	A* PTFE	<15%, <75°F	A*	N	A	A	A	A
Hydrochloric Acid	Liquid	<5%	N	A*	N	N		<15%, <75°F	A*	N	A	A	A	A
Hydrochloric Acid	Liquid	<5%	N	A*	N	N		<15%, <75°F	A*	N	B	A	A	A

Corrosive Media	Physical State	Disc Materials						Seat/Disc Materials						
		Condition	DI	NDI	AIBR	316 SS	Coating	Condition	EPDM	NBR	FKM	PTFE S20/21	PTFE S22/23	UHMWPE
Hydrochloric Acid	Liquid	<5%	N	A*	N	N		<25%, <140°F	A*	N	B	A	A	
Hydrochloric Acid	Liquid	<5%	N	A*	N	N			N	N	N	B	A*	
Hydrochloric Acid	Liquid	<37%	N	B	N	N	A* EPDM	<15%, <75°F	A*	N	A	A	A	A
Hydrochloric Acid	Liquid	<37%	N	B	N	N	A* EPDM	<37%, <75°F	A*	N	B	A	A	A
Hydrochloric Acid	Liquid	<37%	N	B	N	N	A* EPDM	<25%, <140°F	A*	N	B	A	A	
Hydrochloric Acid	Liquid	<37%	N	B	N	N	A* EPDM		N	N	N	B	A*	
Hydrochloric Acid	Liquid		N	N	N	N	A* PTFE	<37%, <75°F	A*	N	B	A	A	A
Hydrochloric Acid	Liquid		N	N	N	N	A* PTFE		N	N	N	B	A*	
Hydrochloric Acid	Liquid		N	N	N	N	A* PTFE	<25%, <140°F	A*	N	B	A	A	
Hydrocyanic Acid	Liquid		N	N	N	N	A* PTFE	<140°F	A*	B	A	A	A	A
Hydrocyanic Acid	Liquid	<75°F	N	A*	N	A		<140°F	A*	B	A	A	A	A
Hydrocyanic Acid	Liquid	<75°F	N	A*	N	A			N	N	N	B	A*	A
Hydrocyanic Acid	Liquid	<140°F	N	N	N	N	A* EPDM		N	N	N	B	A*	A
Hydrocyanic Acid	Liquid		N	N	N	N	A* PTFE		N	N	N	B	A*	A
Hydrocyanic Acid	Liquid	<140°F	N	N	N	N	A* EPDM	<140°F	A*	B	A	A	A	A
Hydrofluoric Acid	Liquid	<30%, <200°F	N	N	N	N	A* FKM	<30%, <200°F	B	N	A*	A	A	A
Hydrofluoric Acid	Liquid	<30%, <200°F	N	N	N	N	A* FKM	<50%, <160°F	B	N	A*	A	A	A
Hydrofluoric Acid	Liquid	<30%, <200°F	N	N	N	N	A* FKM		N	N	B	B	A*	
Hydrofluoric Acid	Liquid	<30%, <200°F	N	N	N	N	A* FKM	<60%, <130°F	B	N	A*	A	A	
Hydrofluoric Acid	Liquid	<15°F	N	A*	N	N			N	N	B	B	A*	
Hydrofluoric Acid	Liquid	<50%, <160°F	N	N	N	N	A* FKM	<30%, <200°F	B	N	A*	A	A	A
Hydrofluoric Acid	Liquid	<50%, <160°F	N	N	N	N	A* FKM	<60%, <130°F	B	N	A*	A	A	
Hydrofluoric Acid	Liquid	<15°F	N	A*	N	N		<60%, <130°F	B	N	A*	A	A	
Hydrofluoric Acid	Liquid	<50%, <160°F	N	N	N	N	A* FKM	<50%, <160°F	B	N	A*	A	A	A
Hydrofluoric Acid	Liquid	<50%, <160°F	N	N	N	N	A* FKM		N	N	B	B	A*	
Hydrofluoric Acid	Liquid	<15°F	N	A*	N	N		<30%, <200°F	B	N	A*	A	A	A
Hydrofluoric Acid	Liquid	<60%, <130°F	N	N	N	N	A* FKM	<50%, <160°F	B	N	A*	A	A	A
Hydrofluoric Acid	Liquid	<60%, <130°F	N	N	N	N	A* FKM	<60%, <130°F	B	N	A*	A	A	
Hydrofluoric Acid	Liquid	<15°F	N	A*	N	N		<50%, <160°F	B	N	A*	A	A	A

Corrosive Media	Physical State	Disc Materials						Seat/Disc Materials						
		Condition	DI	NDI	AIBR	316 SS	Coating	Condition	EPDM	NBR	FKM	PTFE S20/21	PTFE S22/23	UHMWPE
Hydrofluoric Acid	Liquid	<60%,<130°F	N	N	N	N	A* FKM		N	N	B	B	A*	
Hydrofluoric Acid	Liquid		N	N	N	N	A* PTFE	<30%,<200°F	B	N	A*	A	A	A
Hydrofluoric Acid	Liquid		N	N	N	N	A* PTFE	<50%,<160°F	B	N	A*	A	A	A
Hydrofluoric Acid	Liquid		N	N	N	N	A* PTFE		N	N	B	B	A*	
Hydrofluoric Acid	Liquid		N	N	N	N	A* PTFE	<60%,<130°F	B	N	A*	A	A	
Hydrofluoric Acid	Liquid	<60%,<130°F	N	N	N	N	A* FKM	<30%,<200°F	B	N	A*	A	A	A
Hydrofluosilicic Acid	Liquid		N	N	N	N	A* PTFE	<100°F	A*	B	A	A	A	
Hydrofluosilicic Acid	Liquid		N	N	N	N	A* PTFE	<20%,140°F	A*	B	A	A	A	
Hydrofluosilicic Acid	Liquid	<100°F	N	N	N	N	A* EPDM		B	N	B	B	A*	
Hydrofluosilicic Acid	Liquid		N	N	N	N	A* PTFE		B	N	B	B	A*	
Hydrofluosilicic Acid	Liquid	<100°F	N	N	N	N	A* EPDM	<100°F	A*	B	A	A	A	
Hydrofluosilicic Acid	Liquid	<100°F	N	N	N	N	A* EPDM	<20%,140°F	A*	B	A	A	A	
Hydrofluosilicic Acid	Liquid	<20%,<140°F	N	N	N	N	A* EPDM		B	N	B	B	A*	
Hydrofluosilicic Acid	Liquid	<20%,<140°F	N	N	N	N	A* EPDM	<20%,140°F	A*	B	A	A	A	
Hydrofluosilicic Acid	Liquid	<20%,<140°F	N	N	N	N	A* EPDM	<100°F	A*	B	A	A	A	
Hydrogen Chloride (Gas - Dry)	Gas		N	B	N	A*			A*	B		A	A	A
Hydrogen Gas	Gas		A*	A	A	A			A*	A	A	A	A	A
Hydrogen Peroxide	Liquid		N	N	N	N		<85%,<160°F	A*	N	A	A	A	B
Hydrogen Peroxide	Liquid	<75°F	N	N	N	A*		<90%,<73°F						A
Hydrogen Peroxide	Liquid	<75°F	N	N	N	A*		<85%,<160°F	A*	N	A	A	A	B
Hydrogen Peroxide	Liquid		N	N	N	N		<90%,<73°F						A
Hydrogen Sulfide	Gas		N	B	N	N								
Hydrogen Sulfide	Gas	<75°F	N	B	N	A*			A*	N		A	A	A
Hydrogen Sulfide	Gas		N	B	N	N			A*	N		A	A	A
Hydrogen Sulfide	Gas	<75°F	N	B	N	A*								
Hypochlorites (Calcium)	Liquid		N	N	N	N	A* PTFE		B	N	N	B	A*	
Hypochlorites (Calcium)	Liquid		N	N	N	N	A* PTFE	<20%,<250°F	A*	N	B	A	A	
Hypochlorites (Calcium)	Liquid	<20%,<250°F	N	B	N	N	A* EPDM	<20%,<250°F	A*	N	B	A	A	
Hypochlorites (Calcium)	Liquid	<20%,<250°F	N	B	N	N	A* EPDM		B	N	N	B	A*	

Corrosive Media	Physical State	Disc Materials						Seat/Disc Materials						
		Condition	DI	NDI	AI BR	316 SS	Coating	Condition	EPDM	NBR	FKM	PTFE S20/21	PTFE S22/23	UHMWPE
Hypochlorites (sodium)	Liquid		N	B	N	N	A* PTFE	<20%	B	B	B	A*	A	B
Hypochlorites (sodium)	Liquid		N	B	N	N	A* PTFE		N	N	N	B	A*	
Hypochlorous Acid	Liquid	<70°F	N	B	N	N	A* FKM		N	N	B	B	A*	
Hypochlorous Acid	Liquid	<70°F	N	B	N	N	A* FKM	<70°F	B	N	A*	A	A	A
Hypochlorous Acid	Liquid		N	N	N	N	A* PTFE		N	N	B	B	A*	
Hypochlorous Acid	Liquid		N	N	N	N	A* PTFE	<70°F	B	N	A*	A	A	A
Ink	Liquid		N	A*	B	A			A*	B	A	A	A	A
Iodine	Liquid		N	A*	N	N			N	N	A*	A	A	A
Iodoform	Solid		N	B	N	A*		<120°F	A*	N	B	A	A	
Isoamyl Alcohol	Liquid		N	N	N	N	A* PTFE		N	N	B	B	A*	
Isoamyl Alcohol	Liquid		N	N	N	N	A* PTFE	<160°F	B	B	A*	A	A	
Isoamyl Alcohol	Liquid	<160°F	N	B	B	B	A* FKM		N	N	B	B	A*	
Isoamyl Alcohol	Liquid	<160°F	N	B	B	B	A* FKM	<160°F	B	B	A*	A	A	
Isoamyl Alcohol	Liquid			A*		A		<160°F	A*	A	A	A	A	A
Isoamyl Alcohol	Liquid			A*		A			A*	N	A	A	A	A
Isooctane	Liquid		A*	A	A	A			N	A*	A	A	A	
Isophorone	Liquid		A*	B	A	A			A*	N		A	A	
Isopropyl Chloride	Liquid			A*					N	N	A*	A	A	
Isopropyl Acetate	Liquid			B		A*			B	N	B	A*	A	
Isopropyl Alcohol	Liquid		A*	A	A	A			A*	B	B	A	A	A
Isopropyl Ether	Liquid		A*	B	A	A			N	B	N	A*	A	
Jet Fuels (JP-1 to JP-6)	Liquid		N	A*	A	A			N	N	B	A*	A	
Jet Fuels (JP-1 to JP-6)	Liquid		N	A*	A	A		<80°F	N	A*	B	A	A	
Kerosene	Liquid	<75°F	A*	A	A	A			N	B	B	A*	A	B
Kerosene	Liquid		N	A*	A	A		<250°F	N	A*	B	A	A	B
Kerosene	Liquid		N	A*	A	A			N	B	B	A*	A	B
Kerosene	Liquid	<75°F	A*	A	A	A		<250°F	N	A*	B	A	A	B
Ketchup	Liquid		N	A*		A			A*	A	A	A	A	A
Ketones-General	Liquid		B	A*	A	A			N	N	N	B	A*	N

Corrosive Media	Physical State	Disc Materials						Seat/Disc Materials						
		Condition	DI	NDI	AI BR	316 SS	Coating	Condition	EPDM	NBR	FKM	PTFE S20/21	PTFE S22/23	UHMWPE
Ketones - General	Liquid		B	A*	A	A		<180°F	N	N	N	A*	A	N
Lacquer Solvents	Liquid		B	B	B	A*			N	N	B	A*	A	
Lacquers	Liquid		B	B	B	A*			N	N	B	A*	A	
Lactic Acid	Liquid	<140°F	N	A*	N	A		<140°F	A*	N	A	A	A	A
Lactic Acid	Liquid	<25%, <200°F	N	B	N	B	A* EPDM	<25%, <200°F	A*	N	A	A	A	A
Lactic Acid	Liquid	<25%, <200°F	N	B	N	B	A* EPDM	<140°F	A*	N	A	A	A	A
Lactic Acid	Liquid	<140°F	N	A*	N	A		<25%, <200°F	A*	N	A	A	A	A
Lactic Acid	Liquid		N	N	N	N	A* PTFE	<140°F	A*	N	A	A	A	A
Lactic Acid	Liquid		N	N	N	N	A* PTFE	<25%, <200°F	A*	N	A	A	A	A
Lactic Acid	Liquid		N	N	N	N	A* PTFE		N	N	N	B	A*	
Lactic Acid	Liquid	<140°F	N	A*	N	A			N	N	N	B	A*	
Lactic Acid	Liquid	<25%, <200°F	N	B	N	B	A* EPDM		N	N	N	B	A*	
Lard	Liquid		N	A*	A	A			N	A*	A	A	A	A
Latex	Liquid		N	A*	N	A			N	B	B	A*	A	
Lavender Oil (See Oil - Lavender)														
Lead Acetate	Solid					A*			A*	A	A	A	A	A
Lead Sulfamate	Solid	<140°F	N	B	B	B	A* EPDM		B	B	A*	A	A	
Lead Sulfamate	Solid		N	N	N	N	A* FKM		B	B	A*	A	A	
Lead Sulfamate	Solid		N	N	N	N	A* FKM	<140°F	A*	B	A	A	A	
Lead Sulfamate	Solid	<140°F	N	B	B	B	A* EPDM	<140°F	A*	B	A	A	A	
Lead Sulfate	Solid	<160°F	N	B	B	B	A* EPDM	<160°F	A*	B	A	A	A	
Lead Sulfate	Solid		N	N	N	N	A* FKM	<160°F	A*	B	A	A	A	
Lead Sulfate	Solid	<160°F	N	B	B	B	A* EPDM		B	B	A*	A	A	
Lead Sulfate	Solid		N	N	N	N	A* FKM		B	B	A*	A	A	
Lime	Solid		N	A*	A	A			A*	B	B	A	A	A
Lime-Sulfur	Solid			A*	N	A			A*	N		A	A	
Linoleic Acid (also Linolenic Acid)	Liquid		N	B	N	A*			N	N	N	B	A*	
Linoleic Acid (also Linolenic Acid)	Liquid	<140°F	N	A*	N	A		<140°F	B	N	B	A*	A	

Corrosive Media	Physical State	Disc Materials						Seat/Disc Materials						
		Condition	DI	NDI	AI BR	316 SS	Coating	Condition	EPDM	NBR	FKM	PTFE S20/21	PTFE S22/23	UHMWPE
Linoleic Acid (also Linolenic Acid)	Liquid		N	B	N	A*		<140°F	B	N	B	A*	A	
Linoleic Acid (also Linolenic Acid)	Liquid	<140°F	N	A*	N	A			N	N	N	B	A*	
Liquid Soap	Liquid			A*		A			A*	A		A	A	
Liquified Petroleum Gas	Gas			A*	A	A			N	A*		A	A	
Lubricating Oils - Petroleum (See Oils - Lubricating Petroleum)														
Lye (See Sodium Hydroxide)														
Magnesium Ammonium Sulfate	Solid		B	B	B	B	A* PTFE	<140°F	B	B	B	A*	A	
Magnesium Ammonium Sulfate	Solid		B	B	B	B	A* PTFE		N	N	N	B	A*	
Magnesium Bisulfate	Solid		N	B	N	A*			A*	A		A	A	
Magnesium Carbonate	Solid	<50%	N	A*	N	A								
Magnesium Carbonate	Solid		N	B	N	A*								
Magnesium Carbonate	Solid		N	B	N	A*			B	A*	A	A	A	A
Magnesium Carbonate	Solid	<50%	N	A*	N	A			B	A*	A	A	A	A
Magnesium Chloride	Solid		N	A*	N	B		<180°F	A*	A		A	A	A
Magnesium Hydroxide	Solid		N	A*	A	A			A*	B	A	A	A	A
Magnesium Nitrate	Solid		N	A*	N	A				B	A*	A	A	A
Magnesium Oxide	Solid		A*	B		A			B	A*	A	A	A	
Magnesium Sulfate	Solid	<25%, <150°F	N	A*	A	A		<180°F	A*	A		A	A	A
Maleic Acid	Solid	<70°F	N	A*	N	A			N	N	B	B	A*	
Maleic Acid	Solid	<140°F	N	B	N	A*		<140°F	N	N	A*	A	A	A
Maleic Acid	Solid	<140°F	N	B	N	A*			N	N	B	B	A*	
Maleic Acid	Solid		N	N	N	B	A* PTFE	<140°F	N	N	A*	A	A	A
Maleic Acid	Solid		N	N	N	B	A* PTFE		N	N	B	B	A*	
Maleic Acid	Solid	<70°F	N	A*	N	A		<140°F	N	N	A*	A	A	A
Maleic Anhydride	Solid		B	A*	N	A		<140°F	N	B	A*	A	A	
Maleic Anhydride	Solid		B	A*	N	A			N	N	N	B	A*	
Malic Acid	Solid		N	N	N	A*			N	N	B	B	A*	

Corrosive Media	Physical State	Disc Materials						Seat/Disc Materials						
		Condition	DI	NDI	AI BR	316 SS	Coating	Condition	EPDM	NBR	FKM	PTFE S20/21	PTFE S22/23	UHMWPE
Malic Acid	Solid	<140°F	N	A*	B	A		<140°F	N	A*	A	A	A	
Malic Acid	Solid	<140°F	N	A*	B	A			N	N	B	B	A*	
Malic Acid	Solid		N	N	N	A*		<140°F	N	A*	A	A	A	
Manganese Chloride	Solid		N	A*	N				N	N	B	A*	A	A
Manganese Sulfate	Solid		N	A*	N				B	B	A*	A	A	
Mash - Breweries	Solid		N	N	B	B	A* UHMWPE		B	B	B	N	N	A*
Mercuric Chloride	Liquid	<10%, <140°F	N	B	N	N	A* EPDM	<10%, <140°F	A*	A	A	A	A	A
Mercuric Chloride	Liquid	<10%, <140°F	N	B	N	N	A* EPDM		N	N	B	B	A*	A
Mercuric Chloride	Liquid		N	N	N	N	A* PTFE	<10%, <140°F	A*	A	A	A	A	A
Mercuric Chloride	Liquid		N	N	N	N	A* PTFE		N	N	B	B	A*	A
Mercuric Cyanide	Solid	<140°F	N	B	N	B	A* NBR		N	B	N	B	A*	A
Mercuric Cyanide	Solid	<140°F	N	B	N	B	A* NBR	<140°F	B	A*	B	A	A	A
Mercuric Cyanide	Solid		N	N	N	N	A* PTFE		N	B	N	B	A*	A
Mercuric Cyanide	Solid		N	N	N	N	A* PTFE	<140°F	B	A*	B	A	A	A
Mercuric Nitrate	Solid		N	B	N	B	A* PTFE		B	B	B	A*	A	
Mercurous Nitrate	Solid			B	N	A*				B		A*	A	A
Mercury	Liquid	<140°F	N	A*	N	A		<140°F	B	A*	A	A	A	A
Mercury	Liquid	<140°F	N	A*	N	A			N	B	B	A*	A	A
Mercury	Liquid		N	B	N	A*			N	B	B	A*	A	A
Mercury	Liquid		N	B	N	A*		<140°F	B	A*	A	A	A	A
Mesityl Oxide	Liquid		A*	B	A	A			B	N	N	A*	A	
Methacrylic Esters	Liquid			B		A*			N	N	N	A*	A	
Methane	Gas			A*	A	A			N	A*		A	A	
Methyle Acetate	Liquid	<20%, <70°F	B	A*	B	B			N	N	N	B	A*	
Methyle Acetate	Liquid		N	N	N	B	A* PTFE	<20%, <70°F	B	N	N	A*	A	
Methyle Acetate	Liquid	<20%, <70°F	B	A*	B	B		<20%, <70°F	B	N	N	A*	A	
Methyle Acetate	Liquid	<20%, <70°F	B	A*	B	B		<140°F	B	N	N	A*	A	
Methyle Acetate	Liquid		N	N	N	B	A* PTFE	<140°F	B	N	N	A*	A	
Methyle Acetate	Liquid		N	N	N	B	A* PTFE		N	N	N	B	A*	

Corrosive Media	Physical State	Disc Materials						Seat/Disc Materials						
		Condition	DI	NDI	AI BR	316 SS	Coating	Condition	EPDM	NBR	FKM	PTFE S20/21	PTFE S22/23	UHMWPE
Methyl Acetone	Liquid		A*	A	A	A				N	N	A*	A	
Methyl Acrylate	Liquid		B	B	B	A*		<160°F	B	B	N	A*	A	
Methyl Acrylate	Liquid		B	B	B	A*			N	N	N	B	A*	
Methyl Alcohol	Liquid		B	B	A*	A								
Methyl Alcohol	Liquid	<75°F	B	A*	A	A			A*	B	N	A	A	A
Methyl Alcohol	Liquid	<75°F	B	A*	A	A								
Methyl Alcohol	Liquid		B	B	A*	A			A*	B	N	A	A	A
Methyl Amine	Liquid		N	B	N	A*					N	A*	A	
Methyl Bromide	Gas		B	B		A*			N	B	B	A*	A	N
Methyl Butyl Ketone	Liquid			B		A*			B	N	N	A*	A	
Methyl Cellosolve	Liquid		B	B	B	A*			B	N	N	A*	A	
Methyl Cellulose	Solid		N	N	B	A*		<140°F	B	B	N	A*	A	
Methyl Cellulose	Solid		N	N	B	A*			N	N	N	B	A*	
Methyl Cellulose	Solid	<100°F	B	B	A*	A		<140°F	B	B	N	A*	A	
Methyl Cellulose	Solid	<100°F	B	B	A*	A			N	N	N	B	A*	
Methyl Chloride	Gas		N	B	A*	A			N	N	B	A*	A	N
Methyl Ethyl Ketone	Liquid		B	B	A*	A		<140°F	A*	N	N	A	A	N
Methyl Ethyl Ketone	Liquid	<140°F	A*	A	A	A			N	N	N	B	A*	N
Methyl Ethyl Ketone	Liquid	<140°F	A*	A	A	A		<140°F	A*	N	N	A	A	N
Methyl Ethyl Ketone	Liquid		B	B	A*	A			N	N	N	B	A*	N
Methyl Formate	Liquid			B	A*	A			B	N		A*	A	
Methyl Isobutyl Ketone	Liquid			B		A*								
Methyl Isobutyl Ketone	Liquid			B		A*			N	N	N	A*	A	
Methyl Isobutyl Ketone	Liquid	<100°F		A*		A								
Methyl Isobutyl Ketone	Liquid	<100°F		A*		A			N	N	N	A*	A	
Methyl Methacrylate	Liquid			B		A*			N	N	N	A*	A	
Methyl Oleate	Liquid			B		A*			N	N	B	A*	A	
Methyl Propyl Ketone	Liquid			A*		A			N	N	N	A*	A	
Methylene Bromide	Liquid		N	B	N	B	A* PTFE	<180°F	N	N	B	A*	A	

Corrosive Media	Physical State	Disc Materials						Seat/Disc Materials						
		Condition	DI	NDI	AI BR	316 SS	Coating	Condition	EPDM	NBR	FKM	PTFE S20/21	PTFE S22/23	UHMWPE
Methylene Bromide	Liquid		N	B	N	B	A* PTFE		N	N	N	B	A*	
Methylene Chloride	Liquid		N	N		A*		<22%, <140°F	N	N	B	A*	A	N
Methylene Chloride	Liquid		N	N		A*			N	N	N	B	A*	
Milk	Liquid		N	A*	A	A			B	B	A*	A	A	
Mineral Spirits	Liquid			A*	A	A			N	N		A*	A	
Molasses	Liquid		N	A*	B	A			A*	A		A	A	
Monochloroacetic Acid	Solid		N	B	N	N	A* PTFE	<160°F	B	N	B	A*	A	
Monochloroacetic Acid	Solid		N	B	N	N	A* PTFE		N	N	N	B	A*	
Monochlorobenzene (Dry)	Liquid		B	B	B	A*		<180°F	N	N	B	A*	A	
Monochlorobenzene (Dry)	Liquid		B	B	B	A*			N	N	N	B	A*	
Monomethylaniline	Liquid			B		A*			N	N	B	A*	A	
Mud - Drilling (See Drilling Mud)														
Muriatic Acid	Liquid	37%, <130°F	N	A*	N	N			N	N	N	B	A*	
Muriatic Acid	Liquid		N	N	N	N	A* PTFE	37%, <130°F	N	N	A*	A	A	
Muriatic Acid	Liquid	37%, <130°F	N	A*	N	N		37%, <130°F	N	N	A*	A	A	
Muriatic Acid	Liquid		N	N	N	N	A* PTFE		N	N	N	B	A*	
Mustard	Liquid			A*		A						A*	A	
Naphtha	Liquid		B	A*	A	A		<140°F	N	N	A*	A	A	A
Naphthalene	Solid		N	A*	A	A		<170°F	N	N	A*	A	A	N
Naphthalene	Solid		N	A*	A	A			N	N	B	B	A*	
Naphthemic Acid	Liquid		B	B		A*			N	N	A*	A	A	
Natural Gas	Gas			A*	A	A			N	A*	A	A	A	A
Nickel Acetate	Solid	<10%, <100°F	N	B	B	N	A* EPDM		N	N	N	B	A*	
Nickel Acetate	Solid		N	N	N	N	A* PTFE	<10%, <100°F	A*	B	N	A	A	
Nickel Acetate	Solid		N	N	N	N	A* PTFE		N	N	N	B	A*	
Nickel Acetate	Solid	<10%, <100°F	N	B	B	N	A* EPDM	<10%, <100°F	A*	B	N	A	A	
Nickel Ammonium Sulfate	Solid		N	N	N	B	A* PTFE	<160°F	A*	A	A	A	A	A
Nickel Ammonium Sulfate	Solid	<160°F	N	B	N	A*		<160°F	A*	A	A	A	A	A
Nickel Ammonium Sulfate	Solid	<160°F	N	B	N	A*			B	B	B	A*	A	

Corrosive Media	Physical State	Disc Materials						Seat/Disc Materials						
		Condition	DI	NDI	AI BR	316 SS	Coating	Condition	EPDM	NBR	FKM	PTFE S20/21	PTFE S22/23	UHMWPE
Nickel Ammonium Sulfate	Solid		N	N	N	B	A* PTFE		B	B	B	A*	A	
Nickel Chloride	Solid		N	A*	N	B			A*	A	A	A	A	A
Nickel Nitrate	Solid		N	A*	N	A				B	A*	A	A	A
Nickel Sulfate	Solid	<25%, <150°F		A*	N	B		<180°F	A*	A	A	A	A	A
Nicotine Sulfate	Solid		B	B	B	B	A* PTFE		B	N	B	A*	A	
Nicotinic Acid	Liquid		N	B	N	A*		<160°F	N	N		A*	A	A
Nicotinic Acid	Liquid		N	B	N	A*			N	N		B	A*	
Nitrana Solutions	Liquid		N	B	N	A*			N	N	N	A*	A	
Nitric Acid	Liquid	<95%, <75°F	N	N	N	A*		30%, <140°F	N	N	B	A*	A	A
Nitric Acid	Liquid		N	N	N	B	A* PTFE		N	N	N	B	A*	
Nitric Acid	Liquid		N	N	N	B	A* PTFE	<5%	A*	B	B	A	A	A
Nitric Acid	Liquid	<5%	N	B	N	A*		30%, <140°F	N	N	B	A*	A	A
Nitric Acid	Liquid	<5%	N	B	N	A*		<5%	A*	B	B	A	A	A
Nitric Acid	Liquid	<5%	N	B	N	A*			N	N	N	B	A*	
Nitric Acid	Liquid		N	N	N	B	A* PTFE	30%, <140°F	N	N	B	A*	A	A
Nitric Acid	Liquid	<95%, <75°F	N	N	N	A*			N	N	N	B	A*	
Nitric Acid	Liquid	<95%, <75°F	N	N	N	A*		<5%	A*	B	B	A	A	A
Nitric Acid	Liquid	<80%, <100°F	N	N	N	A*			N	N	N	B	A*	
Nitric Acid	Liquid	<80%, <100°F	N	N	N	B		30%, <140°F	N	N	B	A*	A	A
Nitric Acid	Liquid	<80%, <100°F	N	N	N	A*		<5%	A*	B	B	A	A	A
Nitric Acid	Liquid	<40%, <200°F	N	N	N	A*			N	N	N	B	A*	
Nitric Acid	Liquid	<40%, <200°F	N	N	N	A*		30%, <140°F	N	N	B	A*	A	A
Nitric Acid	Liquid	<40%, <200°F	N	N	N	A*		<5%	A*	B	B	A	A	A
Nitrobenzene	Solid		B	B	N	A*			N	N	N	B	A*	N
Nitrobenzene	Solid		B	B	N	A*		<180°F	N	N	N	A*	A	N
Nitroethane	Liquid		B	B	N	A*			N	N	N	A*	A	
Nitrogen - Gas	Gas		A*	A	A	A			A*	A	A	A	A	
Nitromethane	Liquid		B	B	N	A*			N	N	N	A*	A	
Nitrous Acid	Liquid	10%, <70°F	N	A*	N	B			N	N	N	B	A*	

Corrosive Media	Physical State	Disc Materials						Seat/Disc Materials						
		Condition	DI	NDI	AI BR	316 SS	Coating	Condition	EPDM	NBR	FKM	PTFE S20/21	PTFE S22/23	UHMWPE
Nitrous Acid	Liquid		N	N	N	B	A* PTFE	<70°F	N	N	A*	A	A	
Nitrous Acid	Liquid		N	N	N	B	A* PTFE		N	N	N	B	A*	
Nitrous Acid	Liquid	10%, <70°F	N	A*	N	B		<70°F	N	N	A*	A	A	
Octane	Liquid		B	A*	A	A			N	N		A*	A	
Octyle Alcohol	Liquid			A*		A			A*	B		A	A	
Oil - Aniline	Liquid		N	B	N	A*			N	N	N	A*	A	A
Oil - Animal	Liquid		A*	A	B	A			N	A*		A	A	
Oil - Castor	Liquid			A*	A	A			B	A*	A	A	A	A
Oil - China Wood	Liquid			A*	A	A			B	A*	A	A	A	
Oil - Coconut	Liquid		N	A*	N	A			B	A*	A	A	A	A
Oil - Cod Liver	Liquid			A*		A			B	A*	A	A	A	A
Oil - Cooking	Liquid		N	A*	N	A			N	A*	A	A	A	
Oil - Corn	Liquid		N	A*	A	A			N	A*		A	A	A
Oil - Cottonseed	Liquid		N	A*	A	A			N	A*	A	A	A	A
Oil - Creosote	Liquid		A*	B	A	A			N	N	A*	A	A	N
Oil - Crude (Sour)	Liquid		B	B	A*	A			N	B	B	A*	A	
Oil - Crude (Sweet)	Liquid		B	B	A*	A			N	A*	A	A	A	
Oil - Fish	Liquid			A*	N	A			N	A*		A	A	
Oil - Fuel	Liquid					A*			N	B	B	B	A*	N
Oil - Fuel	Liquid	<140°F	B	A*	A	A		<200°F	N	B	B	B	A*	N
Oil - Fuel	Liquid	<140°F	B	A*	A	A		<200°F	N	A*	A	A	A	A
Oil - Fuel	Liquid					A*			N	A*	A	A	A	A
Oil - Halowax	Liquid			B		A*			N	N		A*	A	
Oil - Hydraulic (Cellulube)	Liquid			A*	A	A*			N	A*	A	A	A	
Oil - Hydrolic (Petrol. Base)	Liquid		A*	A	A	A			N	A*	A	A	A	
Oil - Hydraulic (Water Base)	Liquid		A*	A	A	A				A*	A	A	A	
Oil - Lavender	Liquid			B		A*			N	N		A*	A	
Oil - Linseed	Liquid		A*	A	A	A			N	A*		A	A	A
Oil - Lubricating (Petroleum)	Liquid					A*			N	B	B	B	A*	B

Corrosive Media	Physical State	Disc Materials						Seat/Disc Materials						
		Condition	DI	NDI	AI BR	316 SS	Coating	Condition	EPDM	NBR	FKM	PTFE S20/21	PTFE S22/23	UHMWPE
Oil - Lubricating (Petroleum)	Liquid	<140°F	A*	A	A	A		<140°F	N	A*	A	A	A	A
Oil - Lubricating (Petroleum)	Liquid					A*		<140°F	N	A*	A	A	A	A
Oil - Lubricating (Petroleum)	Liquid	<140°F	A*	A	A	A			N	B	B	B	A*	B
Oil - Mineral	Liquid		B	A	A	A			N	A*	A	A	A	
Oil - Motor	Liquid					A*		<140°F	N	A*	A	A	A	A
Oil - Motor	Liquid					A*			N	B	B	B	A*	B
Oil - Motor	Liquid	<140°F	A*	A	A	A			N	B	B	B	A*	B
Oil - Motor	Liquid	<140°F	A*	A	A	A			N	A*	A	A	A	A
Oil - Olive	Liquid		N	A*	B	A			B	A*	A	A	A	A
Oil - Palm	Liquid			A*	B	A			N	A*	A	A	A	A
Oil - Peanut	Liquid			A*	B	A			N	A*	A	A	A	
Oil - Pine	Liquid		N	B	A*	A			N	B		A*	A	B
Oil - Pyridine	Liquid			B		A*			N	N	N	A*	A	
Oil - Rosin	Liquid		N	A*	A	A			N	A*		A	A	
Oil - Silicone	Liquid		A*	A	A	A			A*	A	A	A	A	A
Oil - Soybean	Liquid			A*	B	A			N	A*	A	A	A	A
Oil - Tall	Liquid			B	A*	A			N	A*	A	A	A	
Oil - Transformer	Liquid		A*	A	A	A			N	B	A*	B	A	B
Oil - Transformer	Liquid		A*	A	A	A		<140°F	N	A*	A	A	A	A
Oil - Turbine	Liquid		A*	A	A	A			N	A*	A	A	A	
Oil - Vegetable	Liquid		N	A*	B	A			B	A*	A	A	A	
Oleic Acid	Liquid		N	N		A*		<140°F	N	B	B	A*	A	A
Oleic Acid	Liquid		N	N		A*			N	N	N	B	A*	B
Oleic Acid	Liquid	<140°F	N	A*	A	A		<140°F	N	B	B	A*	A	A
Oleic Acid	Liquid	<140°F	N	A*	A	A			N	N	N	B	A*	B
Oleum	Liquid			B	N	A*			N	N	N	A*	A	N
Oxalic Acid	Solid	<10%, <75°F	N	A*		A		<160°F	A*	B	A	A	A	A
Oxalic Acid	Solid	<10%, <75°F	N	A*		A			B	N	B	A*	A	A
Oxalic Acid	Solid		N	N		B	A* PTFE		B	N	B	A*	A	A

Corrosive Media	Physical State	Disc Materials						Seat/Disc Materials						
		Condition	DI	NDI	AI BR	316 SS	Coating	Condition	EPDM	NBR	FKM	PTFE S20/21	PTFE S22/23	UHMWPE
Oxalic Acid	Solid		N	N		B	A* PTFE	<160°F	A*	B	A	A	A	A
Oxalic Acid	Solid	<160°F	N	B		A*			B	N	B	A*	A	A
Oxalic Acid	Solid	<160°F	N	B		A*		<160°F	A*	B	A	A	A	A
Oxygen - Gas	Gas		A*	A	A	A			A*	B	A	A	A	A
Ozone (Dry) (Wet)	Gas		N	B		A*		<140°F	B	N	A*	A	A	A
Ozone (Dry) (Wet)	Gas		N	B		A*			N	N	B	B	A*	B
Paint - Oil Base	Liquid		B	B	A*	A			N	N		A*	A	
Paint - Thinner/Remover	Liquid		B	B	B	A*			N	N	N	A*	A	
Paint - Water Base	Liquid		B	B	A*	A			N			A*	A	
Paint - Water Base	Liquid		B	B	A*	A		<100°F	N	A*		A	A	
Palmitic Acid (also Hexadecanoic Acid)	Solid	<160°F	B	B	N	A*		<160°F	B	A*	A	A	A	
Palmitic Acid (also Hexadecanoic Acid)	Solid		N	N	N	B	A* PTFE		N	B	B	B	A*	
Palmitic Acid (also Hexadecanoic Acid)	Solid		N	N	N	B	A* PTFE	<160°F	B	A*	A	A	A	
Palmitic Acid (also Hexadecanoic Acid)	Solid	<160°F	B	B	N	A*			N	B	B	B	A*	
Paraffin	Solid		A*	A	A	A			B	A*	A	A	A	A
Paraformaldehyde	Solid		N	A*	A	A			A*	N	N	A	A	
Peanut Oil (See Oil - Peanut)														
Pentachlorophenol	Solid			B	A*	A			A	N	A	A	A	
Pentachlorophenol	Liquid			B	A*	A			N	N	A*	A	A	
Pentane	Gas		A*	A	A	A				A*	A	A	A	
Perchlorethylene	Liquid	<100°F	B	B	B	A*			N	N	B	B	A*	
Perchlorethylene	Liquid	<100°F	B	A*	A	A			N	N	B	B	A*	
Perchlorethylene	Liquid		B	A*	A	A		<200°F	N	N	A*	A	A	
Perchlorethylene	Liquid		B	B	B	A*		<200°F	N	N	A*	A	A	
Perchloric Acid	Liquid		N	N	N	N	A* PTFE	100%, <75°F	B	N	B	A*	A	A
Perchloric Acid	Liquid		N	N	N	N	A* PTFE		N	N	B	B	A*	
Phenolates (Di-Nitrols)	Liquid			N		A*			N	N	A*	A	A	
Phenols (Di-Nitrols)	Liquid			N		A*			N	N	A*	A	A	N

Corrosive Media	Physical State	Disc Materials						Seat/Disc Materials						
		Condition	DI	NDI	AI BR	316 SS	Coating	Condition	EPDM	NBR	FKM	PTFE S20/21	PTFE S22/23	UHMWPE
Phenyl Ethyl Ether	Liquid			N		A*			N	N	N	A*	A	
Phenylhydrazine	Liquid			B		A*			N	N	B	A*	A	
Phorone	Liquid			B			A* PTFE	<100°F	B	N	N	A*	A	A
Phorone	Liquid			B			A* PTFE		N	N	N	B	A*	
Phosphate Esters	Liquid		N	N			A* PTFE		N	N	B	B	A*	
Phosphate Esters	Liquid		N	N			A* PTFE	<200°F	A*	N	A	A	A	
Phosphate Esters	Liquid		N	B			A* EPDM	<200°F	N	A	A	A		
Phosphate Esters	Liquid		N	B			A* EPDM		N	N	B	B	A*	
Phosphoric Acid	Liquid		N	B	N	B	A* PTFE	<85%, <180°F	B	N	A*	A	A	A
Phosphoric Acid	Liquid		N	B	N	B	A* PTFE		N	N	B	B	A*	
Phosphoric Acid	Liquid		N	B	N	B	A* PTFE	<120°F	A*	B	A	A	A	A
Phosphoric Acid	Liquid	<85%, <180°F	N	B	N	A*			N	N	B	B	A*	
Phosphoric Acid	Liquid	<85%, <180°F	N	B	N	A*		<85%, <180°F	B	N	A*	A	A	A
Phosphoric Acid	Liquid	<85%, <180°F	N	B	N	A*		<120°F	A*	B	A	A	A	A
Phosphorous Oxychloride	Liquid			B		A*			N	N		A*	A	
Phosphorous Trichloride Acid	Liquid		N	B		B	A* PTFE		N	N	N	B	A*	
Phosphorous Trichloride Acid	Liquid		N	B		B	A* PTFE	<140°F	N	N	B	A*	A	A
Phthalic Acid	Liquid		N	B	B	B	A* PTFE		N	N	N	B	A*	
Phthalic Acid	Liquid		N	B	B	B	A* PTFE	<100°F	B	B	B	A*	A	A
Phthalic Anhydride	Liquid		A*	B	B	A		<100°F	A*	N		A	A	A
Phthalic Anhydride	Liquid		N	B	N	A*			B	N	B	A*	A	A
Pickling Solutions (20% HNO ₃ , 3.4% HF)	Liquid		N	B	N	N	A* PTFE		N	N	B	A*	A	
Picric Acid - Aqueous	Liquid		N	B	N	B	A* PTFE	<140°F	N	N	B	A*	A	
Picric Acid - Aqueous	Liquid	<140°F	N	B	N	A*		<70°F	A*	N	A	A	A	A
Picric Acid - Aqueous	Liquid	<140°F	N	B	N	A*		<140°F	N	N	B	A*	A	
Picric Acid - Aqueous	Liquid	<140°F	N	B	N	A*			N	N	N	B	A*	
Picric Acid - Aqueous	Liquid		N	B	N	B	A* PTFE	<70°F	A*	N	A	A	A	A
Picric Acid - Aqueous	Liquid	<140°F	N	B	N	A*		<10%, <140°F	B	N	A*	A	A	
Picric Acid - Aqueous	Liquid		N	B	N	B	A* PTFE	<10%, <140°F	B	N	A*	A	A	

Corrosive Media	Physical State	Disc Materials						Seat/Disc Materials						
		Condition	DI	NDI	AI BR	316 SS	Coating	Condition	EPDM	NBR	FKM	PTFE S20/21	PTFE S22/23	UHMWPE
Picric Acid - Aqueous	Liquid		N	B	N	B	A* PTFE		N	N	N	B	A*	
Pine Oil (See Oil - Pine)	Liquid													
Pineapple Juice	Liquid		N	A*		A			A*	A		A	A	
Pinene	Liquid			B		A*		<160°F	N	B	A*	A	A	
Pinene	Liquid			B		A*			N	N	B	B	A*	
Piperidine	Liquid		N	B	N	N	A* PTFE	<160°F	N	N	N	A*	A	
Piperidine	Liquid		N	B	N	N	A* PTFE		N	N	N	B	A*	
Plating Solutions (Brass, Bronze, Cadmium, Copper, Gold, Lead, Silver, Tin, Zinc, Others)	Liquid		N	N	N	N	A* PTFE	<140°F	A*	A	A	A	A	A
Plating Solutions (Brass, Bronze, Cadmium, Copper, Gold, Lead, Silver, Tin, Zinc, Others)	Liquid		N	N	N	N	A* PTFE		B	B	B	A*	A	
Plating Solutions (Brass, Bronze, Cadmium, Copper, Gold, Lead, Silver, Tin, Zinc, Others)	Liquid	<140°F	N	B	N	N	A* EPDM	<140°F	A*	A	A	A	A	A
Plating Solutions (Brass, Bronze, Cadmium, Copper, Gold, Lead, Silver, Tin, Zinc, Others)	Liquid	<140°F	N	B	N	N	A* EPDM		B	B	B	A*	A	
Plating Solutions (Chrome and Nickel)	Liquid	<140°F	N	B	N	N	A* EPDM	<140°F	A*	N	B	A	A	B
Plating Solutions (Chrome and Nickel)	Liquid	<140°F	N	B	N	N	A* EPDM		B	N	N	A*	A	N
Plating Solutions (Chrome and Nickel)	Liquid		N	N	N	N	A* PTFE	<140°F	A*	N	B	A	A	B
Plating Solutions (Chrome and Nickel)	Liquid		N	N	N	N	A* PTFE		B	N	N	A*	A	N
Poly Vinyl Acetate Emulsions	Liquid		N	B	N	A*			B			A*	A	
Polyester Resins	Liquid			A*		A			N	N		A*	A	
Potash, Caustic (See Potassium Hydroxide)														
Potassium Carbonate	Solid			A*	A	A			A*		A	A	A	A
Potassium Cyanide	Solid	<140°F	N	B	N	B	A* EPDM		B	B	N	A*	A	
Potassium Cyanide	Solid		N	N	N	N	A* PTFE	<140°F	A*	A	B	A	A	A
Potassium Cyanide	Solid		N	N	N	N	A* PTFE		B	B	N	A*	A	
Potassium Cyanide	Solid	<140°F	N	B	N	B	A* EPDM	<140°F	A*	A	B	A	A	A
Potassium Iodide	Solid		B	B	B	B	A* FKM		B	B	A*	A	A	A
Potassium Acetate	Solid	100%, <75°F	A*	B		A			A*	B		A	A	

Corrosive Media	Physical State	Disc Materials						Seat/Disc Materials						
		Condition	DI	NDI	AI BR	316 SS	Coating	Condition	EPDM	NBR	FKM	PTFE S20/21	PTFE S22/23	UHMWPE
Potassium Acetate	Solid		B	B		A*			A*	B		A	A	
Potassium Acetate	Solid		B	B		A*		<180°F	A*	A		A	A	
Potassium Acetate	Solid	100%, <75°F	A*	B		A		<180°F	A*	A		A	A	
Potassium Bicarbonate	Solid			A*	A	A			A*	A	A	A	A	A
Potassium Bisulfite	Solid	<25%, <150°F		A*		A		<25%, <150°F	A*	B		A	A	
Potassium Borate	Solid			A*		A			A*	B	A	A	A	
Potassium Bromide	Solid		N	B	N	N	A* FKM		N	N	A*	A	A	A
Potassium Chlorate	Solid	<100°F	B	A*		A								
Potassium Chlorate	Solid		N	A*		A								
Potassium Chlorate	Solid	<100°F	B	A*		A			A*	B	A	A	A	A
Potassium Chlorate	Solid		N	A*		A			A*	B	A	A	A	A
Potassium Chlorate	Solid	<25%, <150°F		A*	N	N		<150°F	A*	A	A	A	A	A
Potassium Chromate	Solid			B		A*		<40%, <140°F	A*	B	A	A	A	A
Potassium Chromate	Solid			B		A*			A*	B	A	A	A	
Potassium Dichromate	Solid	<50%, <212°F	B	B	N	A*		<150°F	B	B	B	A*	A	A
Potassium Dichromate	Solid		B	B	N	B	A* PTFE	<150°F	B	B	B	A*	A	A
Potassium Dichromate	Solid		B	B	N	B	A* PTFE	<25%, <150°F	A*	A	A	A	A	A
Potassium Dichromate	Solid	<150°F	B	B	N	A*			N	N	N	B	A*	
Potassium Dichromate	Solid	<150°F	B	B	N	A*		<150°F	B	B	B	A*	A	A
Potassium Dichromate	Solid		B	B	N	B	A* PTFE		N	N	N	B	A*	
Potassium Dichromate	Solid	<50%, <212°F	B	B	N	A*			N	N	N	B	A*	
Potassium Dichromate	Solid	<50%, <212°F	B	B	N	A*		<25%, <150°F	A*	A	A	A	A	A
Potassium Dichromate	Solid	<150°F	B	B	N	A*		<25%, <150°F	A*	A	A	A	A	A
Potassium Hydroxide (Caustic Potash)	Liquid	<100°F	N	B	N	A*			B	N	N	A*	A	A
Potassium Hydroxide (Caustic Potash)	Liquid	<50%, <100°F		A*	N	A		<180°F	A*	B	N	A	A	A
Potassium Hydroxide (Caustic Potash)	Liquid	<100°F	N	B	N	A*		<180°F	A*	B	N	A	A	A
Potassium Hydroxide (Caustic Potash)	Liquid	<50%, <100°F		A*	N	A			B	N	N	A*	A	A
Potassium Hypochloride	Liquid		N	B	N	N	A* PTFE		B	B	B	A*	A	

Corrosive Media	Physical State	Disc Materials						Seat/Disc Materials						
		Condition	DI	NDI	AI BR	316 SS	Coating	Condition	EPDM	NBR	FKM	PTFE S20/21	PTFE S22/23	UHMWPE
Potassium Nitrate	Solid	<75°F		A*		A			A*	A	A	A	A	A
Potassium Nitrate	Solid	<75°F		A*		A								
Potassium Nitrate	Solid			B		A			A*	A	A	A	A	A
Potassium Nitrate	Solid			B		A								
Potassium Permanganate	Solid	<5%, <175°F		N		A*			N	N	A*	A	A	
Potassium Permanganate	Solid	<5%, <175°F		N		A*		<20%, <140°F	N	N	A*	A	A	A
Potassium Permanganate	Solid		B						N	N	A*	A	A	
Potassium Permanganate	Solid		B					<20%, <140°F	N	N	A*	A	A	A
Potassium Phosphate	Solid			B										
Potassium Phosphate	Solid			B					A*	B	A	A	A	
Potassium Phosphate	Solid	<150°F		B		A*								
Potassium Phosphate	Solid	<150°F		B		A*			A*	B	A	A	A	
Potassium Silicate	Solid			B		A*			A*		A	A	A	
Potassium Sulfate	Solid		N	A*	A	A			A*	A	A	A	A	A
Potassium Sulfide	Solid		N	A*	N	A			B	N		A*	A	A
Potassium Sulfite	Solid		N	A*		B			A*	A	A	A	A	A
Potassium Thiosulfate	Solid		N	B	A*	A			A*	A	A	A	A	
Potassium Triphosphate	Solid		B	B	N	A*			A*	B		A	A	
Prestone Antifreeze	Liquid			A*		A			A*	A		A	A	
Producer Gas	Gas			A*	A	A			N	A*	A	A	A	
Propane	Gas	<75°F	A*	A	A	A								
Propane	Gas		B	A*	A	A			N	A*	A	A	A	A
Propane	Gas	<75°F	A*	A	A	A			N	A*	A	A	A	A
Propane	Gas		B	A*	A	A								
Propionaldehyde	Liquid		N	B	A*	A			A*			A	A	
Propionic Acid	Solid		N	B	A*	A			B	N	N	A*	A	
Propionic Acid	Solid		N	B	A*	A		<160°F	A*	N	A	A	A	
Propionitrile	Solid			B			A* PTFE		N	N	N	A*	A	
Propyl Alcohol	Liquid			A*	A	A			A*	B	B	A	A	A

Corrosive Media	Physical State	Disc Materials						Seat/Disc Materials						
		Condition	DI	NDI	AI BR	316 SS	Coating	Condition	EPDM	NBR	FKM	PTFE S20/21	PTFE S22/23	UHMWPE
Propylene	Gas			B		A*			N	N	N	B	A*	N
Propylene	Gas			B		A*		<170°F	N	N	B	A*	A	B
Propylene Dichloride	Solid			B		A*			N	N	A*	A	A	N
Propylene Glycol	Liquid	<150°F	B	A*	B	B			N	A*	A	A	A	A
Pulp Stock	Liquid		N	N	N	N	A* UHMWPE		B	B	B	N	N	A*
Pydraul (See Hydraulic Fluid - Pydraul)														
Pyranol	Liquid			B		A*			N	A*		A	A	
Pyridine Oil (See Oil - Pyridine)														
Pyrogalllic Acid	Liquid		N	N	N	B	A* PTFE		N	N	B	B	A*	
Pyrogalllic Acid	Liquid	<140°F	N	B	B	A*		<140°F	N	N	A*	A	A	
Pyrogalllic Acid	Liquid	<140°F	N	B	B	A*			N	N	B	B	A*	
Pyrogalllic Acid	Liquid		N	N	N	B	A* PTFE	<140°F	N	N	A*	A	A	
Pyrrole	Liquid			B		A*			N	N		A*	A	
Resins	Liquid		B	A*	A	A			N	N		A*	A	
Rosin Oil (See Oil - Rosin)														
Rum	Liquid			A*		A			A*	A	A	A	A	
Salicylic Acid	Solid	<180°F	N	A*	A	A		<180°F	A*	N	B	A	A	
Salicylic Acid	Solid	<180°F	N	A*	A	A			B	N	N	A*	A	
Salicylic Acid	Solid		N	N	A*	B			B	N	N	A*	A	
Salicylic Acid	Solid		N	N	A*	B		<180°F	A*	N	B	A	A	
Salicylic Acid	Solid		N	N	A*	B		<70°F	A*	B	A	A	A	A
Salicylic Acid	Solid	<180°F	N	A*	A	A		<70°F	A*	B	A	A	A	A
Sea Water (See Water - Sea)														
Sewage	Liquid	<150°F	A*	A	A	A			B	A*	A	A	A	
Sewage	Liquid		B	B	A*	A			B	A*	A	A	A	
Shellac	Liquid		B	B	B	A*			B	B	B	A*	A	
Silicone Grease (See Oil - Silicone)														
Silicone Grease (See Oil - Silicone)														

Corrosive Media	Physical State	Disc Materials						Seat/Disc Materials						
		Condition	DI	NDI	AI BR	316 SS	Coating	Condition	EPDM	NBR	FKM	PTFE S20/21	PTFE S22/23	UHMWPE
Silver Cyanide	Solid	<75°F	N	B	N	A*		<120°F	A*	N		A	A	
Silver Nitrate	Solid	<60%, <75°F	N	B	N	A*		<75%, <160°F	A*	B	A	A	A	A
Silver Nitrate	Solid	<60%, <75°F	N	B	N	A*			B	N		A*	A	A
Silver Nitrate	Solid		N	B	N	N		<75%, <160°F	A*	B	A	A	A	A
Silver Nitrate	Solid		N	B	N	N			B	N		A*	A	A
Skellysolve	Liquid			B	A*	A			N	A*		A	A	
Soap Solutions (Detergent Soln.)	Liquid		B	A*	A	A			A*	A		A	A	A
Soda Ash (See Sodium Carbonate)														
Sodium Acetate	Solid		N	B	A*	A			A*	B	B	A	A	A
Sodium Aluminate	Solid		B	A*	A	A			N	A*		A	A	
Sodium Arsenate	Solid		N	B	N	B	A* PTFE		B	B	B	A*	A	
Sodium Bicarbonate (Baking Soda)	Solid		N	A*	N	A			A*	A	A	A	A	A
Sodium Bichromate Solution	Liquid			B		A*						A*	A	
Sodium Bisulfate (Black Sulfate Liquor)	Solid		N	B	N	A*				B		A*	A	A
Sodium Bisulfate (Black Sulfate Liquor)	Solid		N	B	N	A*		<10%, <160°F				A*	A	A
Sodium Bisulfate (Black Sulfate Liquor)	Solid		N	B	N	A*		<40%	B	B		A*	A	A
Sodium Borate (Borax)	Solid		N	N	N	B	A* UHMWPE		B	B	B	N	N	A*
Sodium Bromide	Solid	<70°F	N	B	N	N	A* FKM		N	N	N	B	A*	
Sodium Bromide	Solid	<70°F	N	B	N	N	A* FKM	<70°F	N	N	A*	A	A	A
Sodium Bromide	Solid	<70°F	N	B	N	N	A* FKM	<160°F	N	N	B	A*	A	
Sodium Bromide	Solid		N	N	N	N	A* PTFE		N	N	N	B	A*	
Sodium Bromide	Solid		N	N	N	N	A* PTFE	<160°F	N	N	B	A*	A	
Sodium Bromide	Solid		N	N	N	N	A* PTFE	<70°F	N	N	A*	A	A	A
Sodium Carbonate	Solid		N	A*	N	A			A*	A		A	A	N
Sodium Chlorate	Solid		N		N	A*			A*	B	A	A	A	A
Sodium Chloride	Solid		N	A*	N	N		<130°F	A*	A	A	A	A	A
Sodium Chloride	Solid		N	A*	N	N			B	B	A*	A	A	A

Corrosive Media	Physical State	Disc Materials						Seat/Disc Materials						
		Condition	DI	NDI	AI BR	316 SS	Coating	Condition	EPDM	NBR	FKM	PTFE S20/21	PTFE S22/23	UHMWPE
Sodium Chromate	Solid		N	N	N	N	A* PTFE		B	N	B	A*	A	
Sodium Chromate	Solid		N	N	N	N	A* PTFE	<140°F	A*	B	A	A	A	
Sodium Chromate	Solid	<140°F	B	B	B	B	A* EPDM	<140°F	A*	B	A	A	A	
Sodium Chromate	Solid	<140°F	B	B	B	B	A* EPDM		B	N	B	A*	A	
Sodium Cyanide	Solid		N	B	N	A*			A*	A	A	A	A	A
Sodium Dichromate	Solid			B	N	A*			A*	B	A	A	A	A
Sodium Fluoride	Solid		N	B	B	A*			B	B	A*	A	A	A
Sodium Hydrosulfide	Solid	<50%, <75°F	N	B		A*		<10%, <160°F		A		A	A	
Sodium Hydrosulfite	Solid	<10%, <160°F	N	B	B	B	A* NBR	<10%, <160°F	B	A*	B	A	A	
Sodium Hydrosulfite	Solid		N	N	N	N	A* PTFE		N	B	N	B	A*	
Sodium Hydrosulfite	Solid		N	N	N	N	A* PTFE	<10%, <160°F	B	A*	B	A*	A	
Sodium Hydrosulfite	Solid	<10%, <160°F	N	B	B	B	A* NBR		N	B	N	B	A*	
Sodium Hydroxide (Lye, Caustic Soda)	Liquid	<50%, <100°F	N	A*	N	A		<73%, <190°F	B	N	N	A*	A	A
Sodium Hydroxide (Lye, Caustic Soda)	Liquid		N	B	N	A*		<73%, <190°F	B	N	N	A*	A	A
Sodium Hydroxide (Lye, Caustic Soda)	Liquid		N	B	N	A*		<50%	A*	B	N	A	A	A
Sodium Hydroxide (Lye, Caustic Soda)	Liquid	<50%, <100°F	N	A*	N	A		<50%	A*	B	N	A	A	A
Sodium Hypochloride	Solid		N	B	N	N	A* PTFE		N	N	N	B	A*	
Sodium Hypochloride	Solid		N	B	N	N	A* PTFE	<140°F	B	N	B	A*	A	
Sodium Hypochlorite	Solid	<3%	N	A*	N	N		<10%, <160°F	B	N	A*	A	A	A
Sodium Hypochlorite	Solid	<3%	N	A*	N	N		<3%	A*	B	A	A	A	A
Sodium Hypochlorite	Solid		N	N	N	N	A* PTFE		N	N	B	A*	A	A
Sodium Hypochlorite	Solid		N	N	N	N	A* PTFE	<10%, <160°F	B	N	A*	A	A	A
Sodium Hypochlorite	Solid	<3%	N	A*	N	N			N	N	B	A*	A	A
Sodium Hypochlorite	Solid	<10%, <160°F	N	B	N	N	A* FKM	<3%	A*	B	A	A	A	A
Sodium Hypochlorite	Solid	<10%, <160°F	N	B	N	N	A* FKM	<10%, <160°F	B	N	A*	A	A	A
Sodium Hypochlorite	Solid	<10%, <160°F	N	B	N	N	A* FKM		N	N	B	A*	A	A
Sodium Hypochlorite	Solid		N	N	N	N	A* PTFE	<3%	A*	B	A	A	A	A
Sodium Iodide	Solid	<160°F	N	B	N	N	A* EPDM		B	B	B	A*	A	

Corrosive Media	Physical State	Disc Materials						Seat/Disc Materials						
		Condition	DI	NDI	AI BR	316 SS	Coating	Condition	EPDM	NBR	FKM	PTFE S20/21	PTFE S22/23	UHMWPE
Sodium Iodide	Solid		N	N	N	N	A* PTFE	<160°F	A*	A	A	A	A	
Sodium Iodide	Solid		N	N	N	N	A* PTFE		B	B	B	A*	A	
Sodium Iodide	Solid	<160°F	N	B	N	N	A* EPDM	<160°F	A*	A	A	A	A	
Sodium Metaphosphate	Liquid		N	B	N	A*			A*	A	A	A	A	
Sodium Metasilicate	Liquid			B		A*			A*	B	A	A	A	
Sodium Nitrate	Solid		N	A*	N	A			A*	A	A	A	A	A
Sodium Nitrite	Solid		N	A*	B	A			A*	A	A	A	A	A
Sodium Perborate	Solid		N	N	N	N	A* FKM		B	N	A*	A	A	
Sodium Perborate	Solid		N	N	N	N	A* FKM	<10%, <212°F	A*	B	A	A	A	
Sodium Perborate	Solid	<10%, <212°F	N	B	N	B	A* EPDM		B	N	A*	A	A	
Sodium Perborate	Solid	<10%, <212°F	N	B	N	B	A* EPDM	<10%, <212°F	A*	B	A	A	A	
Sodium Perborate	Solid	<10%, <75°F	N	B	N	A*			B	N	A*	A	A	
Sodium Perborate	Solid	<10%, <75°F	N	B	N	A*		<10%, <212°F	A*	B	A	A	A	
Sodium Peroxide	Solid							<10%, <120°F	A*	N	A	A	A	
Sodium Peroxide	Solid	<212°F	N	B	N	A*			B	N	A*	A	A	
Sodium Peroxide	Solid	<212°F	N	B	N	A*		<10%, <120°F	A*	N	A	A	A	
Sodium Peroxide	Solid								B	N	A*	A	A	
Sodium Phosphate - Monobasic, Dibasic	Solid		N	A*		A			A*	A		A	A	A
Sodium Phosphate - Tribasic	Solid		N	A*		A			N	A*	A	A	A	A
Sodium Silicate (Water Glass)	Liquid	<75°F	B	A*	A	A			A*	A	A	A	A	A
Sodium Silicate (Water Glass)	Liquid		B	B	B	B	A* EPDM		A*	A	A	A	A	A
Sodium Silicate (Water Glass)	Liquid		B	B	B	B	A* EPDM	<75°F	A*	A	A	A	A	A
Sodium Silicate (Water Glass)	Liquid	<75°F	B	A*	A	A		<75°F	A*	A	A	A	A	A
Sodium Sulfate	Solid		N	A*	A	A			A*	A	A	A	A	A
Sodium Sulfide	Solid		N	B	N	A*			A*	A	A	A	A	A
Sodium Sulfide	Solid	<75°F	N	A	N	A			A*	A	A	A	A	A
Sodium Sulfite	Solid		N	A*	N	A			A*	A	A	A	A	A
Sodium Tetraborate	Solid		B	B	A*	A			A*	A	A	A	A	
Sodium Thiosulfate	Solid		N	B	N	A*			A*	A	A	A	A	A

Corrosive Media	Physical State	Disc Materials						Seat/Disc Materials						
		Condition	DI	NDI	AI BR	316 SS	Coating	Condition	EPDM	NBR	FKM	PTFE S20/21	PTFE S22/23	UHMWPE
Solvasol #1,#2,#3	Liquid	<100°F	N	B	N	B	A* NBR		N	B	B	B	A*	
Solvasol #1,#2,#3	Liquid	<100°F	N	B	N	B	A* NBR	<100°F	N	A*	A	A	A	
Solvasol #1,#2,#3	Liquid		N	N	N	N	A* PTFE		N	B	B	B	A*	
Solvasol #1,#2,#3	Liquid		N	N	N	N	A* PTFE	<100°F	N	A*	A	A	A	
Soybean Oil (See Oil - Soybean)														
Sannic Chloride	Liquid							<10%,<130°F	B	A*	A	A	A	A
Sannic Chloride	Liquid		N	A*	N	N			B	B	A*	A	A	A
Sannic Chloride	Liquid		N	A*	N	N		<10%,<130°F	B	A*	A	A	A	A
Sannic Chloride	Liquid								B	B	A*	A	A	A
Stannous Chloride	Solid								B	B	A*	A	A	A
Stannous Chloride	Solid		N	A*	N	A		<10%,<140°F	B	A*	A	A	A	A
Stannous Chloride	Solid							<10%,<140°F	B	A*	A	A	A	A
Stannous Chloride	Solid		N	A*	N	A			B	B	A*	A	A	A
Starch	Liquid		A*	A	A	A			A*	A	A	A	A	A
Steam and Hot Water	Liquid	<250°F	N	A*	A	A		<250°F	A*	N	N	A	A	
Stearic Acid	Solid		N	N	N	A*		<140°F	N	B	A*	A	A	A
Stearic Acid	Solid	<140°F	N	A*	N	A		<140°F	N	B	A*	A	A	A
Steeped Water - Breweries (See Water, Steeped - Breweries)									N	N	B	B	A*	
Steeped Water - Corn Processing (See Water, Steeped - Corn Processing)														
Stoddards Solvent	Liquid			B	A*	A		<125°F	N	A*		A	A	
Stoddards Solvent	Liquid			B	A*	A			N	B		A*	A	
Styrene	Liquid		N	B	N	A*		<70°F	N	N	B	A*	A	
Styrene	Liquid		N	B	N	A*			N	N	B	B	A*	
Styrene	Liquid	<70°F	B	A*	A	A			N	N	B	B	A*	
Styrene	Liquid	<70°F	B	A*	A	A		<70°F	N	N	B	A*	A	
Sugar Solutions	Liquid		N	A*	A	A			A*	A		A	A	A
Sulfite Liquors	Liquid		N	B	N	A*		<5%,<180°F	B	B		A*	A	

Corrosive Media	Physical State	Disc Materials						Seat/Disc Materials						
		Condition	DI	NDI	AI BR	316 SS	Coating	Condition	EPDM	NBR	FKM	PTFE S20/21	PTFE S22/23	UHMWPE
Sulfur	Solid		N	A*	N	A			A*	N		A	A	A
Sulfur (Molten)	Liquid		N	B	N	A*			N	N	A*	A	A	A
Sulfur Chloride	Liquid		N	N	N	N	A* PTFE	<140°F	N	N	A*	A	A	
Sulfur Chloride	Liquid	<140°F	N	B	B	N	A* FKM	<140°F	N	N	A*	A	A	
Sulfur Chloride	Liquid	<140°F	N	B	B	N	A* FKM		N	N	B	B	A*	
Sulfur Chloride	Liquid		N	N	N	N	A* PTFE		N	N	B	B	A*	
Sulfur Dioxide (Dry)	Gas		A*	B	A	A			A*	A	A	A	A	A
Sulfur Dioxide (Wet)	Gas		N	B	N	A*			N	N	B	A*	A	A
Sulfur Trioxide (Dry)	Solid		A*	N	A	A		<120°F	A*	N	B	A	A	A
Sulfur Trioxide (Dry)	Solid		A*	N	A	A			N	N	B	A*	A	A
Sulfuric & Nitric Acid Mixed	Liquid		N	B	N	B	A* PTFE		N	N	B	B	A*	
Sulfuric Acid	Liquid		N	B	N	B	A* PTFE	<20%, <70°F	A*	N	A	A	A	A
Sulfuric Acid	Liquid	<20%, <70°F	N	A*	N	A		<20%, <70°F	A*	N	A	A	A	A
Sulfuric Acid	Liquid	<20%, <70°F	N	A*	N	A		<30%, <220°F	N	N	A*	A	A	A
Sulfuric Acid	Liquid	<20%, <70°F	N	A*	N	A			N	N	N	B	A*	
Sulfuric Acid	Liquid	<30%, <220°F	N	B	N	B	A* FKM	<20%, <70°F	A*	N	A	A	A	A
Sulfuric Acid	Liquid	<30%, <220°F	N	B	N	B	A* FKM	<30%, <220°F	N	N	A*	A	A	A
Sulfuric Acid	Liquid	<30%, <220°F	N	B	N	B	A* FKM		N	N	N	B	A*	
Sulfuric Acid	Liquid		N	B	N	B	A* PTFE	<30%, <220°F	N	N	A*	A	A	A
Sulfuric Acid	Liquid		N	B	N	B	A* PTFE		N	N	N	B	A*	
Sulfuric Acid (Fuming)	Liquid		N	B	N	B	A* PTFE		N	N	N	B	A*	N
Sulfurous Acid	Liquid	<70°F	N	A*	N	B		<70°F	N	N	B	A*	A	A
Sulfurous Acid	Liquid	<70°F	N	A*	N	B			N	N	N	B	A*	
Tall oil (See Oil - Tall)														
Tallow (See Animal Fats)														
Tannic Acid (Tannin)	Solid	<140°F	B	B	A*	A			B	N	B	A*	A	A
Tannic Acid (Tannin)	Solid		N	N	B	A*			B	N	B	A*	A	A
Tannic Acid (Tannin)	Solid	<140°F	B	B	A*	A		<140°F	A*	B	A	A	A	A
Tannic Acid (Tannin)	Solid		N	N	B	A*		<140°F	A*	B	A	A	A	A

Corrosive Media	Physical State	Disc Materials						Seat/Disc Materials						
		Condition	DI	NDI	AI BR	316 SS	Coating	Condition	EPDM	NBR	FKM	PTFE S20/21	PTFE S22/23	UHMWPE
Tanning Solutions	Liquid		N	B		A*		A*	B	A	A	A	A	A
Tar	Solid		B	B	A	A		N	B	A*	A	A		
Tartaric Acid (Also Dihydroxysuccinic Acid)	Solid		N	N	N	B	A* PTFE	N	N	B	B	A*		N
Tartaric Acid (Also Dihydroxysuccinic Acid)	Solid		N	N	N	B	A* PTFE	<10%, <212°F	B	A*	A	A	A	A
Tartaric Acid (Also Dihydroxysuccinic Acid)	Solid		N	N	N	B	A* PTFE	<50%, <160°F	B	B	B	A*	A	N
Tartaric Acid (Also Dihydroxysuccinic Acid)	Solid	<50%, <160°F	N	N	N	A*		N	N	B	B	A*		N
Tartaric Acid (Also Dihydroxysuccinic Acid)	Solid	<50%, <160°F	N	N	N	A*		<50%, <160°F	B	B	B	A*	A	N
Tartaric Acid (Also Dihydroxysuccinic Acid)	Solid	<50%, <160°F	N	N	N	A*		<10%, <212°F	B	A*	A	A	A	A
Tartaric Acid (Also Dihydroxysuccinic Acid)	Solid	<15%	N	A*	B	A		N	N	B	B	A*		N
Tartaric Acid (Also Dihydroxysuccinic Acid)	Solid	<15%	N	A*	B	A		<50%, <160°F	B	B	B	A*	A	N
Tartaric Acid (Also Dihydroxysuccinic Acid)	Solid	<15%	N	A*	B	A		<10%, <212°F	B	A*	A	A	A	A
Terpineol	Liquid			B		A*		N	B	A*	A	A		
Tertiary Butyl Mercaptan	Liquid		N	N	N	N	A* PTFE	N	N	B	B	A*		
Tertiary Butyl Mercaptan	Liquid		N	N	N	N	A* PTFE	<140°F	N	N	A*	A	A	
Tertiary Butyl Mercaptan	Liquid	<140°F	B	B	N	B	A* FKM	<140°F	N	N	A*	A	A	
Tertiary Butyl Mercaptan	Liquid	<140°F	B	B	N	B	A* FKM		N	N	B	B	A*	
Tertiary Butyl Alcohol	Solid		B	A*	A	A		B	B		A*	A		
Tertiary Butyl Catechol	Liquid		N	N	N	N	A* PTFE	N	N	B	B	A*		
Tertiary Butyl Catechol	Liquid		N	N	N	N	A* PTFE	<140°F	B	N	A*	A	A	
Tertiary Butyl Catechol	Liquid	<140°F	B	B	N	B	A* FKM	<140°F	B	N	A*	A	A	
Tertiary Butyl Catechol	Liquid	<140°F	B	B	N	B	A* FKM		N	N	B	B	A*	
Terachloroethane	Liquid			A*	A	A		N	N	B	A*	A		
Tetraethyl Lead	Liquid			B	N	A*		N	B		A*	A		A
TetraHydrofuran	Liquid	<100°F		A*	A	A		B		N	A*	A		B
TetraHydrofuran	Liquid			B	B	A*								
TetraHydrofuran	Liquid	<100°F		A*	A	A								

Corrosive Media	Physical State	Disc Materials						Seat/Disc Materials						
		Condition	DI	NDI	AI BR	316 SS	Coating	Condition	EPDM	NBR	FKM	PTFE S20/21	PTFE S22/23	UHMWPE
Tetrahydrofuran	Liquid			B	B	A*			B		N	A*	A	B
Tetralin	Liquid			A*		A			N	N		A*	A	N
Thionyl Chloride	Liquid		N	B	N	N	A* PTFE		N	N	N	B	A*	
Thionyl Chloride	Liquid		N	B	N	N	A* PTFE	140°F	N	N	B	A*	A	
Titanium Tetrachloride	Liquid	<75°F	N	B	N	A*			N	N		A*	A	
Titanium Sulfate	Solid		N	N	N	N	A* PTFE		N	N	N	B	A*	
Titanium Sulfate	Solid		N	N	N	N	A* PTFE	<140°F	N	N	B	A*	A	
Toluene	Liquid	100%, <100°F	A*	B	A	A		100%, <100°F	N	N	B	A*	A	N
Toluene	Liquid		B	B	B	A*		100%, <100°F	N	N	B	A*	A	N
Toluene	Liquid		B	B	B	A*			N	N	N	B	A*	N
Toluene	Liquid	100%, <100°F	A*	B	A	A			N	N	N	B	A*	N
Transmission Fluid	Liquid		A*	B	A	A			N	A*		A	A	
Triacetin	Liquid	<100°F	N	B	B	B	A* EPDM		N	N	N	B	A*	
Triacetin	Liquid		N	N	N	N	A* PTFE		N	N	N	B	A*	
Triacetin	Liquid		N	N	N	N	A* PTFE	<100°F	A*	B	N	A	A	
Triacetin	Liquid	<100°F	N	B	B	B	A* EPDM	<100°F	A*	B	N	A	A	
Tributoxy Ethyl Phosphate	Liquid	<160°F	N	B	B	B	A* EPDM		B	N	N	B	A*	
Tributoxy Ethyl Phosphate	Liquid		N	N	N	N	A* PTFE	<160°F	A*	N	B	A	A	
Tributoxy Ethyl Phosphate	Liquid		N	N	N	N	A* PTFE		B	N	N	B	A*	
Tributoxy Ethyl Phosphate	Liquid	<160°F	N	B	B	B	A* EPDM	<160°F	A*	N	B	A	A	
Tributyl Phosphate	Liquid			A*		A			A*	N	N	A	A	
Trichloroacetic Acid	Solid		N	B	N	N	A* PTFE	100%, <100°F	B	N	N	A*	A	B
Trichloroacetic Acid	Solid		N	B	N	N	A* PTFE		N	B	N	B	A*	N
Trichloroethane	Liquid	<140°F	N	N	N	B	A* PTFE	<140°F	N	N	A*	A	A	
Trichloroethane	Liquid	<140°F	N	B	B	A*		<140°F	N	N	A*	A	A	
Trichloroethane	Liquid		N	B	B	A*			N	N	B	B	A*	
Trichloroethane	Liquid	<75°F	N	N	N	B	A* PTFE		N	N	B	B	A*	
Trichloroethylene	Liquid		N	A*	N	A			N	N	B	B	A*	N
Trichloroethylene	Liquid		N	B	N	A*		<160°F	N	N	A*	A	A	N

Corrosive Media	Physical State	Disc Materials						Seat/Disc Materials						
		Condition	DI	NDI	AI BR	316 SS	Coating	Condition	EPDM	NBR	FKM	PTFE S20/21	PTFE S22/23	UHMWPE
Trichloroethylene	Liquid		N	B	N	A*			N	N	B	B	A*	N
Trichloroethylene	Liquid	<75°F	N	A*	N	A		<160°F	N	N	A*	A	A	N
Tricresyl Phosphate	Liquid		B	A*	N				A*	N		A	A	
Triethanol Amine	Liquid		N	N		A*		<140°F	N	A*	B	A	A	A
Triethanol Amine	Liquid		N	N		A*			N	N	N	B	A*	B
Triethanol Amine	Liquid	<140°F	B	N	A*	A		<140°F	N	A*	B	A	A	A
Triethanol Amine	Liquid	<140°F	B	N	A*	A			N	N	N	B	A*	B
Triethyl Borane	Liquid		N	B	N	B	A* PTFE		N	N	N	B	A*	
Triethyl Borane	Liquid		N	B	N	B	A* PTFE	<160°F	N	N	B	A*	A	
Trinitrotoluene (TNT)	Liquid			B		A*			N	N	B	B	A*	
Trinitrotoluene (TNT)	Liquid			B		A*		<100°F	N	N	B	A*	A	
Triphenyl Phosphate	Liquid			B		A*			N	N		A*	A	
Triphenyl Phosphate	Liquid			A*		A			B	B		A*	A	A
Tung Oil (See Oil - China Wood)														
Turbine Oil (See Oil - Turbine)														
Turpentine	Liquid		N	B	A*	A		<75°F	N	A*	A	A	A	B
Turpentine	Liquid		N	B	A*	A			N	N	A*	A	A	N
Turpentine	Liquid							<75°F	N	A*	A	A	A	B
Turpentine	Liquid								N	N	A*	A	A	N
Urea	Solid		N	B	N	A*			A*	A	A	A	A	A
Urea	Solid	<105°F	N	A*	N	A			A*	A	A	A	A	A
Urea	Solid	<105°F	N	A*	N	A								
Urea	Solid		N	B	N	A*								
Urea Ammonia Liquor	Liquid		N	B	N	A*			A*	N		A	A	
Varnish	Liquid		B	B	A*	A			N	N	B	A*	A	
Vegetable Oil (See Oil - Vegetable)														
Vinegar	Liquid		N	A*	N	A			A*	B	A	A	A	A
Vinyl Acetate	Solid			B		A*		<100°F	N	N	A*	A	A	A

Corrosive Media	Physical State	Disc Materials						Seat/Disc Materials						
		Condition	DI	NDI	AI BR	316 SS	Coating	Condition	EPDM	NBR	FKM	PTFE S20/21	PTFE S22/23	UHMWPE
Vinyl Acetate	Solid			B		A*			N	N	B	A*	A	A
Vinyl Chloride	Gas		N	B	N	A*			B	N	B	A*	A	
Water Base Hydraulic Oil (See Hydraulic Oil, Water Bas)	Liquid													
Water, Acidic Mine (Clean)	Liquid		N	A*	N	B			A*	A	A	A	A	A
Water, Acidic Mine (Unfiltered)	Liquid		N	N	N	B	A* UHMWPE		B	B	B	N	N	A*
Water, Brackish	Liquid		N	A*	A	A			A*	A		A	A	
Water, Carbonated	Liquid		N	A*	N	A			A*	A	A	A	A	A
Water, Chilled	Liquid		N	A*	A	A			A*	A	A	A	A	
Water, Chlorine	Liquid	<4%		B		A*		<4%	N	N	B	A*	A	A
Water, Chlorine Saturated	Liquid			B		A*			A*	N		A	A	B
Water, Chlorine (High Content)	Liquid		N	A*	A	B			A*	A		A	A	
Water, Cooling	Liquid		N	A*	A	A			A*	A	A	A	A	
Water, Deionized, Demineralized	Liquid		N	A*	N	A			A*	A	A	A	A	A
Water, Distilled	Liquid		N	A*	N	A			A*	A	A	A	A	A
Water, Fresh	Liquid		N	A*	A	A			A*	A	A	A	A	A
Water, Hot Water Heating	Liquid		N	A*	A	A			A*	N	A	A	A	
Water, Paint Spray Reclamation	Liquid		B	A*	A	A			A*	A		A	A	
Water, Salt, Sea Water	Liquid		N	A*	A	B			A*	A	A	A	A	A
Water, Steeped - Breweries	Liquid		N	A*	B	A			A*	B	A	A	A	
Water, Steeped - Corn Processing	Liquid		N	B	N	A*			N	B		A*	A	
Water, Swimming Pool (Chlorinated)	Liquid		N	A*	A	A			A*	A	A	A	A	
Waxes	Solid			A*	A	A			N	A*	A	A	A	
Whiskey	Liquid		N	A*	N	A			A*	B	A	A	A	A
White Liquor	Liquid		N	B	N	A*			B	B		A*	A	
Wine	Liquid		N	A*	N	A			A*	A	A	A	A	A
Wood Alcohol	Liquid		N	A*	A	A			A*	B	B	A	A	
Wood Pulp - Acid or Sulfite Solution	Liquid		N	B	N	A*			A*	A	A	A	A	

Corrosive Media	Physical State	Disc Materials						Seat/Disc Materials						
		Condition	DI	NDI	AI BR	316 SS	Coating	Condition	EPDM	NBR	FKM	PTFE S20/21	PTFE S22/23	UHMWPE
Wood Oil (See Oil - China Wood)														
Wort - Breweries	Liquid		N	B	B	A*			A*	B	A	A	A	
Xylene	Liquid		B	A*	A	A			N	N		B	A*	N
Xylene	Liquid		B	A*	A	A	<140°F		N	N	A*	A	A	B
Xylindenes	Liquid			B	B	A*			N	N	N	A*	A	N
Zinc Acetate	Solid		N	A*	N	A			A*	B		A	A	
Zinc Chloride	Solid		N	A*	N	N	<5%, <70°F		A*	A	A	A	A	A
Zinc Chloride	Solid		N	A*	N	N	<75%, <300°F					A*	A	A
Zinc Cyanide	Solid		N	B	N	A*			N	N	N	A*	A	
Zinc Hydrosulfite	Solid		N	B	N	A*						A*	A	
Zinc Nitrate	Solid			A*					A*		A	A	A	
Zinc Sulfate	Solid		N	A*	N	A			A*	A	A	A	A	A