



# ARO<sup>®</sup>

## CHEMICAL COMPATIBILITY GUIDE

REFERENCE GUIDE FOR PUMPS





- ▀ ARO® is pleased to present this selection guide to provide a convenient and informative reference point for pump selection.

This information was compiled from information provided by material suppliers and manufacturers.

**The compatibility listings are intended as a guide only. We assume no liability for their accuracy on their use.** The user should test under their own operating conditions to determine the suitability of any compound and material in a particular application.

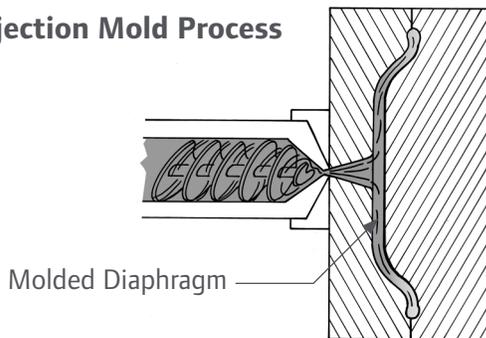
➤ **THERMOPLASTIC ELASTOMERS (TPE's) vs THERMOSETTING RUBBER DIAPHRAGMS**

Aro's direction has been to move toward replacement of traditional thermoset rubber diaphragms with thermoplastic elastomers (TPE). Examples of TPE's include: Santoprene®, Nitrile (TPE) and Hytrel®.

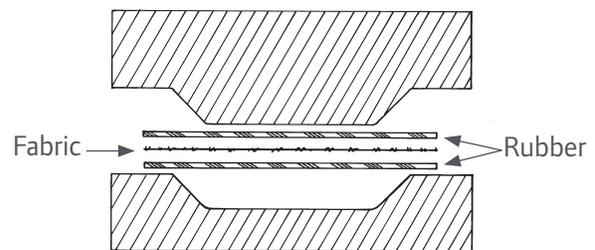
TPE's are manufactured using a plastic injection molding process where the resin, or diaphragm material, is melted and injected into a mold to produce the diaphragm. The advantages of this process includes:

Features	Benefits
Diaphragm is molded to optimum shape	Excellent flex life
Homogenous part	No delamination failures
High performance resins	Chemical, abrasion and flex life
Injection molded/tight process control	Low cost/consistent performance

**Injection Mold Process**



**Thermoset Mold Process (Lamination)**



➤ **LABORATORY TESTING HAS SHOWN:**

Santoprene® outperformed all rubber diaphragms except Buna in the mild abrasive fluids. The Geolast diaphragm had equivalent life to the Buna diaphragms and was superior to the other rubbers compounds.

PTFE with the Santoprene® backer exhibited the best flex life of all diaphragms during the test series.

➤ **TRADITIONAL THERMOSET INCLUDES: BUNA-N (TS), EPR, NEOPRENE®, VITON®**

Thermosets diaphragms are constructed by sandwiching (laminating) a layer of fabric reinforcement between two sheets of unvulcanized rubber. These are placed in a mold and compressed under heat and pressure to bond and vulcanite the rubber.

Limitations of the process includes:	Results
Inclusion of fabric limits design flexibility to achieve optimum diaphragm shape	Lower flex life
Fabric does not remain centered between the two rubber sheets	Poor abrasion / chemical attack
Incomplete bonding can occur	Delamination
Time/Labor intensive	Expensive
Inconsistent quality	Inconsistent life
"Wicking" of fabric	Delamination / Leakage

## ► THERMOPLASTIC COMPOUNDS (TPE)

Thermoplastic elastomeric (TPE) diaphragms are manufactured using an injection molding process. The process allows the part to be molded in the shape and configuration required of the diaphragm to provide excellent performance and life. The TPE resins used to manufacture the diaphragms exhibit excellent dimensional and tensile characteristics eliminating the fabric reinforcement. The following TPE's are used in ARO diaphragm pumps.

## ► THERMOSET (TS)

These materials are manufactured from natural rubber and man made additives to enhance resistance to various fluids. Diaphragms are manufactured using a compression molding process. A nylon fabric mesh is molded in the diaphragm to add strength to the compound.

## ► PTFE

The most chemically inert man made compound known. New diaphragm design and material processing have significantly improved flex life equivalent to or exceeding rubber compounds. A backer diaphragm is used to provide additional support.

Rating A = Excellent B = Good C = Fair D = Poor	Compound	Color Code	Temperature Limits**	Flex Life	Abrasion Resistance Balls (Seats)	Acid Service	Caustic Service	Solvents (Ketones/Acetates)	Hydrocarbons Aromatic/Chlorinated	Petroleum/Oils
<b>TPE</b>	Santoprene (Backer)	Tan (Green)	-40° to 225°F	A	A	A	A	B	D	D
	Hytrek*	Cream	-20° to 180°F	A	A	C	B	B	C	A
	Urethane*	Clear	-10° to 150°F	A	A	D	D	D	D	A
	PTFE	White	+40° to 225°F	A	C	A	A	A	A	A
<b>Rubber</b>	Neoprene	Green	0° to 200°F	B	B	C	C	D	D	B
	Nitrile (TS) (BUNA-N)	Red	+10° to 180°F	B	B	B	C	C	C	A
	Viton	Yellow	-40° to 350°F	C	B	A	A	B	A	A
	EPR/EPDM	Blue	-60° to 280°F	B	B	B	A	B	D	D

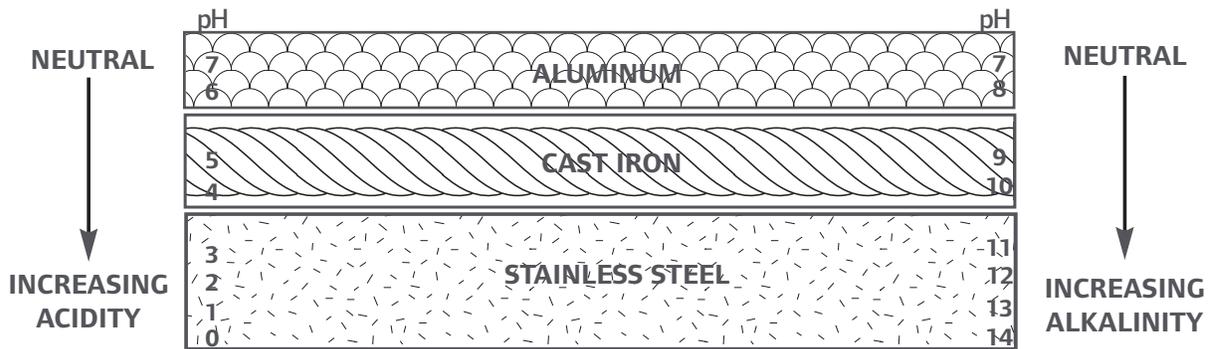
\* Not Available in all models

\*\*Maximum temperature limits are based on mechanical stress only. Certain chemicals can significantly reduce maximum safe operating temperature.

## HALOGENATED SOLVENTS EXPLOSION HAZARD

Pump models containing aluminum wetted parts cannot be used with 111.-Trichloroethylene, Methylene Chloride or other Halogenated Hydrocarbon solvents which react and explode. Although manufactures of those solvents typically add inhibitors to prevent a reaction, there is no assurance that they will prevent a reaction under all conditions. Special caution should be exercised handling reclaimed or used solvents since the inhibitors are often degraded. Only Stainless Steel or Acetal or PVDF pumps should be used for these materials. Other examples of Halogenated Hydrocarbon Solvents (H.H.C.) include, but not limited to the following: Trichloroethane, Methyl Chloride, Carbon Tetrachloride, Chloroform Dichlorethylene.

## WET END MATERIAL COMPATIBILITY GUIDE



## NON-METALLICS

**Polypropylene** - A general purpose low cost material having broad chemical resistance for use in a wide variety of chemical applications.

**Kynar (PVDF)** - A high performance fluoropolymer resin with excellent chemical resistance properties. Used for pumping aggressive chemicals at elevated temperature. Material also has excellent mechanical properties.

**Groundable Acetal** - An excellent material for use in solvent transfer applications. The material incorporates metallic fibers in the resin to render the material conductive to eliminate static charge build up and potential static discharge.

### Rating

A = Excellent  
B = Good  
C = Fair  
D = Poor

Non-Metallic Wet End Materials	Temperature Limits**	Acid Service	Caustic Service	Solvents (Ketones/Acetates)	Hydrocarbons Aromatic/Chlorinated
Polypropylene	+32° to 175°F	A	A	NR	NR
PVDF	+10° to 200°F	A	A	*	*
Groundable Acetal	-20° to 180°F	D	D	A	A

\* Check compatibility guide for part specific solvent or hydrocarbon

\*\*Maximum temperature is based on mechanical stress only. Certain chemicals can significantly reduce maximum safe operating temperature

# COMPATIBILITY GUIDE

A = Excellent, B = Good, C = Fair to Poor, D = Not recommended

X or Brackets around a rating letter, no data is available, but the ratings are made on the basis of exposure test in similar chemical groups.

\*All degrees are in Fahrenheit



MATERIAL	NITRILE	SANTOPRENE®	PTFE	HYTREL®	NEOPRENE®	URETHANE	EPR/EPDM	VITON®	UHMW-PE	LEATHER	POLYPROPYLENE	ACETAL	PVDF	ALUMINUM	CAST IRON	STAINLESS	HASTELLOY®
Acetaldehyde (Ethanol)	D	B	A	B	D	D	A	D	B	B	C	A	D	B	A	A	A
Acetamide(Ethanamide)	A	A	A	D	B	D	A	A	A	X	A/70	A	A/75	A	A	A	A
Acetate Solvents	D	B	A	D	D	D	A	D	B	X	B	A/70	A/70	A	D	A	A
Acetic Acid	C	B	A	D	C	C	A	C	B	D	B	D	A	B	D	A	A
Acetic Anhydride	D	A	A	C(B)	B	D	B	D	D	B	C	D	D	B	D	A	A
Acetone	D	B	A	C	D	D	A	D	A	X	D	B	D	A	A	A	A
Acetonitrile (Methyl Cyanide)	D	A/70	A	X	D	B	A	D	X	X	B/70	X	A/120	A	A	A	B
Acetophenone (Acetyl Benzene)	D	B	A	X	D	X	B	D	X	X	B/70	X	A/70	B	A	A	B
Acetyl Acetone	D	X	A	X	D	D	A	D	X	X	X	X	X	D	A	A	X
Acetyl Chloride	D	B/70	A	D	D	D	D	B	D	X	D	X	A/120	D	A	B	A
Acetylene	A	X	A	A	B	D	A	A	X	A	D	A	A	A	A	A	A
Acetyl Salicylic Acid (Aspirin)	X	C	A	X	B	X	B	A	A	X	X	X	X	D	B	B	X
Acrolein (Acryaldehyde)	X	A	A	D	D	D	A	B	X	X	X	X	X	B	B	B	X
Acrylonitrile (Vinyl Cyanide)	D	D	A	D	D	D	D	C	X	X	B	X	A/70	A	A	A	A
Adipic Acid	B	B	A	D	A/140	X	A	A	A	X	A	A/70	A	B	B	B	A
Aero Lubriplate	A	C	A	D	A	X	D	A	X	X	A	A	A	A	A	A	A
Aerosafe 2300	D	B	A	A	D	A	A	D	X	X	X	A	X	A	A	A	X
Aerosafe 2300W	D	B	A	A	D	D	A	D	X	X	X	A	X	A	A	A	X
Aeroshell 1AC	A	D	A	D	B	B	D	A	X	X	A	A	B	A	A	A	A
Aeroshell 7A Grease	A	D	A	D	B	D	D	A	X	X	X	A	X	A	A	A	X
Aeroshell 17 Grease	A	D	A	D	B	A	D	A	X	X	X	A	X	A	A	A	X
Aeroshell 750	C	D	A	D	D	A	D	A	X	X	X	A	X	A	A	A	A
Alcohol Amyl (1-Pentanol)	B	A	A	A	B	D	A	B	A	X	A	A	A	B/70	B	A	A
Alcohol Benzyl (Phenol Carbinol)	D	A	A	D	B	C	C	A	A	X	A/70	A/70	A	B/70	A	A	A
Alcohol Butyl (Butanol)	B	A	A	D	A	D	A	A	A	X	B	A	A	B	B	A	A
Alcohol Diacetone (Tyranton)	D	C	A	D	D	D	B	D	X	X	B	A	A/70	B	B	A	A
Alcohol Ethyl (Ethanol)	A	B	A	A	A	D	A	A	A	X	A	A	A	B/200	A	A	A
Alcohol Hexyl (1-Hexanol)	A	B	A	D	B	D	B	A	X	X	A/70	A	A	A	A	A	A
Alcoh. Isobutyl (2-Methyl-1-Propanol)	C	A	A	B	A	D	B	A	X	X	A/70	A	A	B	C	A	A
Alcohol Isopropyl (2-Propanol)	C	B	A	A	B	D	B	A	X	X	A	A	A/150	B	C	A	A
Alcohol Methyl (Methanol)	A	A	A	A	A	D	B	D	A	X	A/120	A	A	B	A	A	A
Alcohol Octyl (Caprylic Alcohol)	X	B	A	D	B	D	A	A	X	X	X	A	X	A	A	A	A
Alcohol Propyl (Propanol)	A	A	A	D	A	D	B	A	C	X	A	A	A/120	A	A	A	A
Allyl Alcohol	A	A	A	D	A	B	A	B	A	X	A	X	A	B	A	A	A
Allyl Bromide	D	X	A	D	D	A	D	B	X	X	X	X	X	D	A	X	X
Allyl Chloride	C	X	A	D	D	D	D	B	B	X	A	X	A	D	C	B	X
Alkazene	D	D	A	D	D	D	X	A	B	X	X	X	X	X	X	X	X
Almond Oil (Artificial)	D	C	A	D	D	D	B/70	D	X	X	D	X	X	X	X	X	X
Alum (Alum Potassium Sulfate)	A	A	A	D	A	D	A	A	A	X	A	A	A	C	D	B	B
Aluminum Acetate	X	A	A	X	B	D	A	D	A	X	A	A	X	A	D	B	B
Aluminum Ammonium Sulfate	A	B	A	X	A/170	X	A	A	X	X	A	X	A	X	X	X	X
Aluminum Bromide	B	B	A	D	A	D	A	A	X	X	X	X	A	X	X	X	X
Aluminum Chloride	A	A	A	B	A	B	A	A	A	X	A	B	A	B	D	C	A
Aluminum Fluoride	B	A	A	X	A	C/70	B	A	A	X	A	D	A	B	D	A	B
Aluminum Hydroxide	A	A	A	D	A	B	A	A	A	X	A	A	A	A	D	A	B

# COMPATIBILITY GUIDE

A = Excellent, B = Good, C = Fair to Poor, D = Not recommended

X or Brackets around a rating letter, no data is available, but the ratings are made on the basis of exposure test in similar chemical groups.

\*All degrees are in Fahrenheit



MATERIAL	NITRILE	SANTOPRENE®	PTFE	HYTREL®	NEOPRENE®	URETHANE	EPR/EPDM	VITON®	UHMW-PE	LEATHER	POLYPROPYLENE	ACETAL	PVDF	ALUMINUM	CAST IRON	STAINLESS	HASTELLOY®
Aluminum Nitrate	A	A	A	X	A/70	C	A	A	A	X	A	B	A	B	D	A	B
Aluminum Phosphate	A	A	A	X	A	D	A	A	X	X	A	A	A	X	X	A	X
Alum. Potassium Sulfate (Alum)	A	A	A	D	A	D	A	A	A	X	A	A	A	C	D	B	B
Aluminum Sulfate (Sulphate)	A	A	A	(B)	A	B	A	A	A	A	A	B/70	A	A	D	A	A
Amines	D	A	A	D	D	D	C	D	A	D	B/120	C/70	X	A	D	A	B
"Ammonia, Gas, Cold"	B	A	A	D	A	B	A	D	A	X	B	A	D	X	X	X	X
"Ammonia, Anhydrous"	B	A	A	D	A	X	A	D	A	D	A/70	D	D	A/70	A	A	A
Ammonia Liquids	B	A	A	X	A	B	A	D	D	X	A/70	D	A	D	A	A	B
Ammonia Nitrate	A	A	A	X	C	B	A	D	X	X	A	B/70	A	C	A	A	B
Ammonium Acetate	A	A	A	D	A	D	A	A	A	X	A	C	X	B	A	X	X
Ammonium Bicarbonate	B	A	A	X	A	C	B	D	A	X	X	X	X	X	X	X	X
Ammonium Bifluoride	A	A	A	X	A	D	A	A	X	X	A	X	A	X	D	X	X
Ammonium Carbonate	C	A	A	X	A	A	A	A	A	A	A	D	A	B	B	B	B
Ammonium Casenite	X	A	A	X	A	X	X	X	X	X	X	A	X	X	X	A	X
Ammonium Chloride 1%	A	A	A	A/70	A	B/70	A	A	A	X	A	A	A	C	D	C	A
Ammonium Dichromate	B	A	A	X	A	X	A	X	X	X	X	X	X	A	A	X	X
Ammonium Diphosphate	X	A	A	D	A	X	A	A	X	X	X	X	X	X	X	X	X
Ammonium Fluoride	B	B	A	X	B	X	A	A	A	X	A	X	A	D	D	D	A
Ammonium Hydroxide	B	A	A	(B)	A	D	A	B	A	B	A	B	A	B	B	B	A
Ammonium Nitrate	A	A	A	X	A	A	A	A	A	X	A	B	A	B	A	A	A
Ammonium Nitrite	A	A	A	X	A	D	A	A	A	A	A/70	X	A	X	X	A	X
Ammonium Oxalate- 5% Sol.	B	A	A	X	A	X	A	X	A	X	X	B	X	X	D	A	A
Ammonium Persulfate Sol.	D	A	A	X	A	D	B	A	A	X	A	X	A	C	D	A	A
Ammonium Phosphate	A	A	A	B	A	B	A	A	B	X	A	B	A	B	D	A	A
Ammonium Sulfamate	A	A	A	B	A	A	A	A	X	X	X	X	X	X	X	X	X
Ammonium Sulfate	A	A	A	B	A	A	A	A	A	X	A	A	A	B	C	A	B
Ammonium Sulfide	X	X	A	X	A	B	A	D	A	X	X	X	X	X	X	X	X
Ammonium Sulfite	A	A	A	X	A	D	A	A	D	X	A	D	X	C	D	B	A
Ammonium Sulphate 1% - 5%	A	X	A	C	A	B	X	D	A	X	A	A	A	B	C	A	B
Ammonium Thiocyanate	X	X	A	X	A	X	A	A	A	X	X	X	A	C	C	A	A
Ammonium Thiosulfate	A	A	A	X	A	X	A	A	X	X	X	B	X	A	D	A	X
Ammonium Thiophosphate	A	A	A	D	A	X	A	A	X	X	X	X	X	X	X	X	X
Amyl Acetate (banana oil)	D	D	A	C	D	D	A	D	B	B	B	D	A/120	B	X	A	B
Amyl Alcohol	B	A	A	A	A	D	A	A	A	X	B	A	A	B	C	A	B
Amyl Borate	X	B	A	X	A	D	D	A	X	X	X	X	X	X	X	X	X
Amyl Chloride (Chloropentane)	D	C	A	D	D	C	D	A	D	X	D	A	A	D	A	A	B
Amyl Chloranaphthalene	C	C	A	X	D	D	D	A	X	X	X	X	X	X	X	X	X
Amyl Naphthalene	D	C	A	D	D	D	D	A	X	X	X	X	X	X	X	X	X
Amyl Phenol	X	C	A	X	X	X	X	A	X	X	X	X	X	A	A	A	A
"Anderol, L-774 (Di-Ester)"	X	X	A	X	D	D	D	A	X	X	X	X	X	X	X	X	X
L-826 (Di-Ester)	D	D	A	D	D	D	D	A	X	X	X	X	X	X	X	X	X
L-829 (Di-Ester)	D	D	A	D	D	D	D	A	X	X	X	X	X	X	X	X	X
ANG-25 (Glycerol Ester)	D	X	A	X	B	D	A	A	X	X	X	X	X	X	X	X	X
ANG-25 (Di-Ester Base) (TG7449)	D	D	A	X	D	D	D	A	X	X	X	X	X	X	X	X	X

# COMPATIBILITY GUIDE

A = Excellent, B = Good, C = Fair to Poor, D = Not recommended

X or Brackets around a rating letter, no data is available, but the ratings are made on the basis of exposure test in similar chemical groups.

\*All degrees are in Fahrenheit



MATERIAL	NITRILE	SANTOPRENE®	PTFE	HYTREL®	NEOPRENE®	URETHANE	EPR/EPDM	VITON®	UHMW-PE	LEATHER	POLYPROPYLENE	ACETAL	PVDF	ALUMINUM	CAST IRON	STAINLESS	HASTELLOY®
Anhydrous Ammonia	B	A	A	D	D	D	A	D	X	X	A/70	D	D	B	D	A	A
Anhydrous Hydrazine	D	X	A	X	B	D	B	D	X	X	X	X	X	X	X	X	X
Anhydrous Hydrogen Fluoride	D	C	A	X	X	D	A	D	X	X	X	X	X	X	X	X	X
Aniline	D	A	A	C	D	D	D	D	C	X	A	A/70	A/70	C	C	A	B
Aniline Dyes	D	B	A	D	B	D	A	A	C	X	X	D	X	B	A	B	X
Aniline Hydrochloride	D	A	A	X	D	D	B	B	C	X	D	X	A/100	D	D	D	X
Aniline Oil	D	C	A	D	D	D	B	C	X	X	X	X	X	B	A	A	B
Aniline Sulfite	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	C	X
Animal Oil (Lard Oil)	B	B	A	B	A	C	A	A	A	X	A	A	A	A	A	A	A
Animal Gelatin	B	B	A	X	A	A	A	A	X	X	X	X	X	X	X	A	X
AN-0-3 Grade M	B	B	A	D	D	B	B	A	X	X	X	X	X	X	X	X	X
AN-0-6	B	X	A	D	A	D	A	A	X	X	X	X	X	X	X	X	X
AN-0-366	B	X	A	D	D	D	C	A	X	X	X	X	X	X	X	X	X
Ansul Ether 161 or 181	D	D	A	D	X	B	C	D	X	X	X	X	X	X	X	X	X
Anthraquinone	D	D	A	D	D	B	C	D	X	X	X	X	X	B	B	B	A
Anti-Freeze (Ethylene Glycol)	A	A	A	A/70	A	B	A	A	A	X	A	B	A	B	B	A	A
Antimony Chloride	B	A	A	D	D	X	A	B	A	X	A	X	A	B	A	A	A
Antimony Trichloride	X	A	A	D	C	D	B	A	A	X	A	X	A	B	A	A	B
AN-VV-0-366b Hydr. Fluid	D	D	A	D	C	D	D	A	X	X	X	X	X	X	X	X	X
Aqua Regia(20% Nitric, 80% HCL)	D	D	A	D	D	D	B/140	A/70	B	X	B/70	D	A/70	D	D	D	C
Argon	A	A	A	A	D	A	A	A	X	X	X	X	X	X	X	X	X
Aroclor	D	D	A	C	D	B/70	B	A	X	X	D	X	X	A	B	A	A
Aromatic Fuel 50%	X	C	A	X	D	D	D	A	X	X	X	X	X	X	X	X	X
Aromatic Hydrocarbons	D	C	A	C/70	D	D	D	A	X	X	D	A	X	A	A	A	X
Arsenic Acid	A	A	A	D	B	C	A	A	X	B	A	D	A	D	D	A	B
Arsenic Trichloride	B	B	A	D	A	X	D	A	A	X	X	D	X	D	D	D	B
Ascorbic Acid	X	X	A	X	A	X	X	X	X	X	X	X	X	A	D	A	X
Askarel	C	D	A	D	D	D	D	A	X	X	X	X	X	X	X	A	X
Asphalt	B	B	A	(B)	C	B	D	A	X	A	A	B	A	A	B	A	X
Asphalt Emulsion	B	B	A	B	B	B	D	A	A	X	X	X	A	B	A	A	A
Asphalt Topping	B	B	A	B	B	B	D	A	A	X	D	D	D	A	A	A	A
ASTM Oil, NO. 1	C	C	A	A	B	B	D	A	A	X	X	A	X	A	A	A	A
No.2	X	C	A	A	B	D	D	A	A	X	X	A	X	A	A	A	A
No.3	C	C	A	A	C	D	D	A	A	X	X	A	X	A	A	A	A
No.4	X	X	A	D	D	D	D	A	A	X	X	A	X	A	A	A	A
B	B	C	A	A	D	D	D	A	X	X	X	X	X	A	A	A	A
C	C	D	A	A	D	D	D	A	X	X	X	X	X	A	A	A	A
ASTM Reference Fuel A	B	B	A	A	B	D	D	A	X	X	X	X	X	A	A	A	A
Atlantic Dominion F	X	C	A	D	B	D	D	A	X	X	X	X	X	X	X	X	X
Aurex 903R (Mobile)	X	X	A	D	B	A	D	A	X	X	X	X	X	X	X	X	X
Automatic Transmission Fluid	X	D	A	A	B	B	D	A	X	X	X	A	X	A	A	A	A
Aviation Gasoline, Mil.	B	X	A	D	C	D	D	A	X	X	X	X	X	A	A	A	A
Bardol B	D	D	A	D	X	X	D	A	X	X	X	X	X	X	X	X	X
Barium Carbonate	A	A	A	X	A	B	A	A	B	A	A	A	A	D	A	A	A

# COMPATIBILITY GUIDE

A = Excellent, B = Good, C = Fair to Poor, D = Not recommended

X or Brackets around a rating letter, no data is available, but the ratings are made on the basis of exposure test in similar chemical groups.

\*All degrees are in Fahrenheit



MATERIAL	NITRILE	SANTOPRENE®	PTFE	HYTREL®	NEOPRENE®	URETHANE	EPR/EPDM	VITON®	UHMW-PE	LEATHER	POLYPROPYLENE	ACETAL	PVDF	ALUMINUM	CAST IRON	STAINLESS	HASTELLOY®
Barium Chloride	A	A	A	X	A	A	A	A	B	X	A	A	A	D	D	B	A
Barium Cyanide	D	A	A	X	A	X	A	A	X	X	D	B	X	C	B	A	X
Barium Hydroxide (Barium Hydrate)	A	A	A	(B)	A	A	A	A	A	B	A	D	A	D	B	A	B
Barium Nitrate	A	A	A	X	A	B	A	A	B	X	A	B	A	B	A	A	A
Barium Sulfate	A	A	A	D	A	A	A	A	A	A	A	B	A	D	B	A	A
Barium Sulfide	A	A	A	X	A	A	A	A	B	A	A	A	A	D	D	B	A
Bayol D	D	D	A	X	A	X	D	A	X	X	X	X	X	X	X	X	X
Bayol 35	D	D	A	X	A	X	D	A	X	X	X	X	X	X	X	X	X
Beef Extract	A	A	A	X	A	X	X	A	X	X	X	X	X	X	D	A	X
Benzaldehyde	D	D	A	B	D	D	A	D	C	X	D	A	A/70	A	A	A	A
Benzene (Benzol)	C	C	A	B	D	D	D	B	D	B	B	A	A	B	B	B	A
Benzene Sulfonic Acid	D	A	A	X	B	D	D	B	D	X	B/70	C	A	D	D	B	B
Benzyl Acetate	X	X	A	D	X	X	X	D	C	X	X	X	X	A	A	A	B
Benzyl Alcohol	D	D	A	C	C	D	C	A	A	X	A	X	A	A	A	A	B
Benzyl Benzoate	X	C	A	D	D	D	B	A	X	X	X	X	X	A	B	B	B
Benzyl Chloride (Chlorotoluene)	D	C	A	D	D	D	D	A	A	X	D	A	A	D	D	B	A
Benzoic Acid	D	A	A	D	D	D	B	A	A	A	A	B	A	B	D	B	B
Benzol (Benzene)	D	C	A	B	D	D	D	B	D	X	D	A	A/70	B	B	A	A
Bichloride of Mercury	B	B	A	X	A	A/70	A	A	X	X	X	X	X	X	X	X	X
Biphenyl (Diphenyl)	D	D	A	X	D	D	D	A	X	X	X	X	X	A	A	X	X
Bismuth Subcarbonate	X	D	A	D	D	D	A	X	A	X	X	X	X	X	X	X	X
Black Point 77	X	X	A	X	C	C/70	A	A	X	X	X	X	X	X	X	B	X
Black Sulphate Liquor	X	X	A	B	B	D	B	B	A	X	X	X	A/175	C	B	A	B
Blast Furnace Gas	X	A	A	B	D	D	D	A	A	X	X	D	X	X	X	X	X
Bleach Solutions (Water, Chlorine)	D	B	A	C	D	D	A	B	B	X	B	D	A	D	D	B	B
Blood (Meat Juices - Cold)	D	B	A	D	A	D	A	C	X	X	A	X	X	A	D	A	X
Borax (Sodium Borate)	A	A	A	A	A	A	A	A	A	A	A	A	A	C	A	A	A
Bordeaux Mixtures	B	A	A	B	A	D	A	A	A	X	X	X	X	D	C	A	A
Boric Acid	A	A	A	A/70	A	A/70	A	A	A	A	A	C	A	B	D	A	A
Boron Fuels (HEF)	C	D	A	D	D	A	D	A	X	X	X	X	X	X	X	X	X
Brake Fluid (Non-Petroleum)	D	A	A	D	B	A	A	D	A	X	D	X	X	A	A	A	A
Brine (Sodium Chloride)	A	A	A	B	B	B	A	A	A	X	A/70	A	A	C	D	A	A
Brewery Slop	X	A	A	D	A	A	A	A	X	X	X	X	X	X	A	A	X
Bromine	D	C	A	D	D	D	C	A	D	X	B/72	D	A/150	D	D	D	A
Bromine- Anhydrous	D	C	A	D	D	D	D	A	D	X	D	D	A/150	D	D	D	A
Bromine- Pentafluoride	D	D	A	X	D	D	D	D	X	X	X	X	X	X	X	X	X
Bromine Trifluoride	D	C	A	D	D	D	D	D	X	X	D	D	X	D	D	B	X
Bromine Water	D	B	A	D	D	D	D	B	X	X	D	D	A	D	D	B	X
Bromobenzene	D	D	A	D	D	D	D	B	D	X	D	D	A	D	B	B	B
Bromochloromethane	X	X	A	X	D	D	B	C	X	X	X	X	X	D	B	B	B
Bromochloro Trifluoroethane	X	D	A	X	D	D	D	A	X	X	X	X	X	X	X	X	X
Bromotoluene	X	X	A	X	X	X	X	B	X	X	X	X	X	D	A	A	A
Bronzing Liquid	X	A	A	X	D	D	B/70	D	X	X	X	X	X	X	X	A	A
Bunker Oil	B	B	A	D	D	D	D	A	A	X	X	X	X	A	A	A	A

# COMPATIBILITY GUIDE

A = Excellent, B = Good, C = Fair to Poor, D = Not recommended

X or Brackets around a rating letter, no data is available, but the ratings are made on the basis of exposure test in similar chemical groups.

\*All degrees are in Fahrenheit



MATERIAL	NITRILE	SANTOPRENE®	PTFE	HYTREL®	NEOPRENE®	URETHANE	EPR/EPDM	VITON®	UHMW-PE	LEATHER	POLYPROPYLENE	ACETAL	PVDF	ALUMINUM	CAST IRON	STAINLESS	HASTELLOY®
Butadiene (Monomer)	D	D	A	D	D	D	D	B	D	A	D	A	A	A	A	A	X
Butane (LPG) (Butyl Hydride)	A	D	A	A	B	D	D	A	D	A	B	A	A	A	A	A	A
Butanol (Butyl Alcohol)	B	B	A	B	A	D	A	A	A	X	B	A	A	B	B	A	A
Butter	A	B	A	B	B	A	A	A	A	X	A	A	A	A	D	A	X
Buttermilk	A	A	A	X	A	A	A	A	A	A	A	A	A	A	D	A	A
Butyl Acetate	B	B	A	C	D	D	D	D	B	X	B/70	B	A	A	A	A	A
Butyl Acetyl Ricinoleate	D	B	A	X	B/70	D	A/70	A/70	X	X	X	X	X	A	A	A	A
Butyl Acrylate	D	C	A	D	D	X	D	D	A	X	D	A	A/70	X	X	X	X
Butyl Alcohol (Butanol)	A	A	A	B	A	D	B	A	A	X	A/70	X	A	A	B	A	A
Butyl Amine (Aminobutane)	B	A	A	D	D	D	D	D	A	X	B	C	B/70	A	A	A	B
Butyl Benzoate	X	C	A	X	D	D	A	A	X	X	X	A	X	B	B	B	B
Butyl Butyrate	X	C	A	D	D	X	A	X	X	X	X	X	X	A	A	A	A
Butyl Carbitol	D	B	A	X	C	D	A	C	X	X	X	A	X	X	X	X	X
Butyl Cellosolve	D	A	A	X	D	D	A	D	X	X	X	A	B	X	X	X	X
Butyl Chloride (Chlorobutane)	D	D	A	X	C	X	X	A	X	X	D	X	A	A/70	A	A	A
Butyl Ether (DiButyl Ether)	X	C	A	X	B	X	X	C	A	X	D	X	A/100	A	A	A	X
Butyl Oleate	D	C	A	X	D	X	B	A	X	X	X	A	X	X	X	X	X
Butyl Stearate	C	C	A/70	X	D	B	D	A	A	X	X	A	A/100	B	B	B	B
Butylene (Butene)	C	C	A	B	C	C	C	A	X	X	B	A	A	A	X	A	X
Butyraldehyde	D	C	A	D	D	D	C	D	C	X	D	A	B	A	A	A	A
Butyric Acid	D	A	A	B	D	D	B	B	B	X	A	D	A	A	D	B	A
Butyric Anhydride	X	A	A	X	X	X	X	X	D	X	X	X	X	A	A	A	A
Butyronitrile	X	X	A	D	D	X	A	C	X	X	X	X	X	X	X	X	X
Cadmium Sulfate (25% Concentration)	X	X	A	D	X	D	X	X	X	X	X	X	X	X	X	X	X
Calcium Acetate (Hydrate)	X	X	A	D	B	D	A	D	X	X	X	X	X	C	C	B	B
Calcium Acid Sulphate	X	X	A	X	C	X	B	D	X	X	X	X	X	X	X	X	X
Calcium Bisulphate	A	X	A	X	C	A	A	A	X	X	X	X	X	X	X	X	X
Calcium Bisulfide	A	D	A	B	A	A	D	A	X	X	A	A	A	C	D	B	A
Calcium Bisulfite	A	D	A	D	A	A	D	A	A	A	A	D	A	D	D	A	A
Calcium Carbonate (Chalk)	A	A	A	X	A	D	A	A	A	A	A	A	A	C	B	A	A
Calcium Chlorate	A	A	A	X	A	B	A	A	A	X	A	X	A	B	B	B	B
Calcium Chloride (Brine)	A	A	A	A	A	A	A	A	A	X	A	D	A	C	C	C	A
Cal. Hydrosulfide (Cal. Sulfhydrate)	X	A	A	X	A	X	A	A	A	X	X	X	X	X	X	X	X
Calcium Hydroxide - 10% (Boiling)	A	A	A	B	A	A	A	A	D	A	A	A/150	A	C	A	A	A
Calcium Hypochlorite	C	A	A	B	D	D	A	A	A	D	A	A	A	C	D	A	A
Calcium Nitrate	C	A	A	X	B	D	B	A	A	X	A	D	A	B	C	B	B
Calcium Oxide (Unslaked Lime)	A	A	A	B	A	B	A	A	A	X	X	X	X	A	A	A	A
Calcium Silicate	X	X	A	X	A	X	A	A	X	X	X	X	X	A	B	A	A
Calcium Sulfate (Gypsum)	A	A	A	X	D	B	A	A	A	X	A	D	A	B	A	A	B
Calcium Sulfide	A	A	A	X	B	A	A	A	X	X	A/120	X	A	A	B	B	A
Calcium Sulfite	B	A	A	X	A	A	A	A	X	X	X	X	X	B	B	A	X
Calcium Thiosulfate	C	A	A	D	A	A	A	A	X	X	X	X	X	X	X	X	X
Calgon	A	A	A	D	A	D	A	A	X	X	A	A	X	X	D	A	X
Cane Juice	B	A	A	X	A	D	A	A	X	X	B/72	A	B	B	A	A	X

# COMPATIBILITY GUIDE



A = Excellent, B = Good, C = Fair to Poor, D = Not recommended

X or Brackets around a rating letter, no data is available, but the ratings are made on the basis of exposure test in similar chemical groups.

\*All degrees are in Fahrenheit

MATERIAL	NITRILE	SANTOPRENE®	PTFE	HYTREL®	NEOPRENE®	URETHANE	EPR/EPDM	VITON®	UHMW-PE	LEATHER	POLYPROPYLENE	ACETAL	PVDF	ALUMINUM	CAST IRON	STAINLESS	HASTELLOY®
Cane Sugar Liquors	A	A	A	B	A	D	A	A	X	X	A	X	A	A	B	A	X
Capryl Alcohol (Octanol)	B	A	A	X	D	D	A	B	X	X	X	X	X	A	A	A	A
Caprylic Acid (Octanoic acid)	C	A	A	X	X	X	A	A	X	X	X	X	A	A	X	A	A
Caproic Aldehyde	X	X	A	X	X	X	X	D	X	X	X	X	X	X	X	X	X
Carbamate	D	A	A	X	B	D	B	A	X	X	X	X	X	X	X	X	X
Carbitol	C	B	A	X	B	D	B	A	X	X	C	X	A	B	B	B	X
Carbolic Acid (Phenol)	D	A	A	D	C	C	C	A	B	D	B	D	A/70	B	D	A	A
Carbon Bisulfide	D	D	A	B	D	C	D	A	D	X	D	B	A	A	B	B	B
Carbon Dioxide	B	A	A	C	A	C	A	B	C	A	A	A	A	A	D	A	A
Carbon Disulfide	D	D	A	C	D	C	D	A	D	X	D	B	A/70	A	B	B	B
Carbon Monoxide	A	A	A	A	B	A	C	A	C	X	A	B	A	A	A	A	A
Carbon Tetrachloride - Pure	D	D	A	D	D	A	D	A	D	X	B/70	A	A	D	C	A	A
Carbonated Beverages	A	A	A	X	A	B	A	A	X	X	A	X	A	C	D	A	A
Carbonic Acid	B	A	A	C	A	C	A	A	B	A	A	A	A	D	B	A	X
Casein	X	A	A	X	A	X	A	A	X	X	X	X	X	B	X	B	B
Casing Head Gas	X	X	A	X	A	X	X	X	X	X	X	X	X	X	X	X	X
Castor Oil	B	B	A	C	A	A	B	A	X	X	X	X	X	A	B	A	A
Catsup (Ketchup)	A	A	A	X	D	D	X	A	A	X	A	B	X	D	D	A	A
Cellosolve (Glycol ethers)	D	C	A	D	D	D	B	D	X	X	A	A	A	B	B	B	A
Cellosolve, Acetate	D	A	A	D	D	D	B	D	C	X	A	A	A/120	B	B	A	A
Cellosolve, Butyl	D	C	A	D	D	D	B	D	X	X	X	A	B	X	X	X	X
Celluguard	B	B	A	X	A	D	A	B	X	X	X	X	X	X	X	X	X
Cellutherm 2505A	C	D	A	D	D	D	D	A	X	X	X	X	X	X	X	X	X
Cetane (Hexadecane)	B	D	A	D	B	D	D	A	X	X	X	X	X	X	X	X	X
China Wood Oil(Tung Oil)	B	B	A	B	A	C	D	A	X	X	A	A	A	A	A	A	A
Chloroacetaldehyde	X	X	A	X	D	D	A	D	X	X	X	X	X	X	X	X	X
Chlorate of Lime	D	D	A	D	D	D	A	A	A	X	X	X	X	X	X	X	X
Chlorbenzol (Conc. Pure)	D	D	A	X	D	X	D	D	X	X	X	X	X	X	X	X	X
Chlorextol	X	X	A	X	B	D	D	A	X	X	X	X	X	X	X	X	X
Chlorinated Lime - 35% (Bleach)	C	A	A	C	D	D	A	A	A	X	B	D	A	D	D	A	A
Chlorinated Water - Saturated	D	D	A	D	C	D	D	A	A	X	B	D	A	C	X	B	A
“Chlorine, Dry”	D	C	A	D	D	D	D	A/70	B	X	B	D	A	D	D	D	A
“Chlorine, Wet”	D	C	A	D	D	D	A	A	B	D	D	D	A	D	B	B	A
“Chlorine, Anhydrous Liquid”	D	D	A	D	D	D	D	A	D	X	D	D	A	D	D	D	A
Chlorine Dioxide	D	D	A	D	D	D	C	B	D	X	D	X	A	D	D	D	A
Chlorine Trifluoride	D	D	A	X	D	D	D	D	D	X	D	X	X	D	D	A	X
Chloroacetic Acid	C	D	A	X	D	D	B	D	D	X	X	X	X	X	X	X	X
Chloroacetone	D	C	A	D	C	D	D	B	X	X	D	B	X	D	B	B	B
Chlorobenzene	C	C	A	D	D	D	D	A	B	X	B	A	A/70	D	B/70	B	A
Chlorobromo Methane	D	D	A	D	D	D	B	A	D	X	D	B	X	D	B	B	X
Chlorobutadiene	D	C	A	D	D	D	D	A	X	X	D	X	X	D	B	A	B
Chlorodane	D	C	A	D	D	D	D	A	X	X	X	X	X	X	X	X	X
Chlorododecane	D	D	A	D	D	D	D	A	X	X	D	X	X	D	D	X	X
Chloroform	C	C	A	C	D	D	D	A	D	X	D	A	A	D	D	A	B

# COMPATIBILITY GUIDE

A = Excellent, B = Good, C = Fair to Poor, D = Not recommended

X or Brackets around a rating letter, no data is available, but the ratings are made on the basis of exposure test in similar chemical groups.

\*All degrees are in Fahrenheit



MATERIAL	NITRILE	SANTOPRENE®	PTFE	HYTREL®	NEOPRENE®	URETHANE	EPR/EPDM	VITON®	UHMW-PE	LEATHER	POLYPROPYLENE	ACETAL	PVDF	ALUMINUM	CAST IRON	STAINLESS	HASTELLOY®
0 - Chloronaphthalene	D	D	A	D	D	D	D	A	C	X	D	X	A	D	B	B	B
1 - Chlorol 1 Nitro Ethane	D	C	A	D	D	D	D	D	X	X	D	X	X	D	X	X	X
Chlorosulfonic Acid (Dry)	C	C	A	C	D	D	C	C	D	X	C	D	C	D	D	D	B
Chlorosulfonic Acid (Wet)	D	D	A	D	D	D	D	D	D	X	C	D	C	D	D	D	B
Chlorotoluene	D	C	A	D	D	D	D	A	X	X	D	A	X	D	B	B	A
0 - Chlorphenol	C	C	A	X	D	D	D	B	X	X	X	B	A	C	C	A	A
Chromic Acid - 5%	D	A	A	D	D	D	A	A	A	X	A/70	D	A	C	D	A	A
Chromic Acid - 50%	D	A	A	D	D	D	C	A	A	X	B/140	D	A	C	D	B	A
Cider (Apple Juice)	B	A	A/122	D	A	D	A	A	A	X	X	A	X	B	D	A	A
Cinnamon Oil	X	C	A	X	C	X	X	X	X	X	X	X	X	X	D	A	X
Citric Acid - 5% Solution	A	A/70	A	B/70	A	A/70	A	A	A	X	A	C	A	C	D	A	A
Citric Oils	B	C	A	X	D	X	B	A	A	X	A	B	X	C	D	A	X
Citrus Pectin Liquor	B	X	A	B	A	C	X	C	D	X	X	X	X	X	X	A	X
Clove Oil	X	C	A	X	X	X	X	X	X	X	X	X	X	X	D	A	X
Coal Gas	X	X	A	B	A	B	A	A	X	X	X	X	X	X	X	X	X
Coal Tars	D	D	A	D	C	D	D	A	X	X	C	D	X	X	X	X	A
Cobalt Chloride	A	A	A	X	A	D	C	A	X	X	A	X	X	D	D	X	X
Coca Cola Syrup	B	A	A	X	B	B	A	B	X	X	X	X	X	X	X	X	X
Coconut Oil (Coconut Butter)	B	B	A	X	C/140	C	B	A	A	X	X	X	X	B	A	A	X
Cod Liver Oil (Fish Oil)	X	C	A	X	B/70	A	A	A	A	X	X	X	X	A	D	A	X
Coffee	A	A	A	X	A	D	A	A	A	X	A	A	X	A	X	A	A
Coke Oven Gas	D	B	A	X	C	D	D	A	A	X	X	X	A	X	X	X	X
Coliche Liquors	B	B	A	X	A	X	B	X	X	X	X	X	X	X	X	X	X
Convelex 10	D	D	A	D	D	D	X	A	X	X	X	X	X	X	X	X	X
Coolanol (Monsanto)	B	D	X	X	B	D	D	A	X	X	X	A	A	D	D	C	B
Copper Acetate	X	A	A	D	B	D	A	D	X	X	X	A	A	D	D	C	B
Copper Chloride - 1%	A	A	A	A	A	D	A	A	A	X	A	A	A	D	D	D	B
Copper Cyanide	A	A	A	A	A	A	A	A	A	X	A	A	A	D	D	A	A
Copper Fluoborate	X	A	A	A	A	A	X	A	X	X	X	B	X	D	D	D	B
Copper Nitrate	B	A	A	A	A/140	B/70	A	A	A	A	A	A	A	D	D	A	A
Copper Sulfate - 5% Solution	A	A	A	A	A	A	A	A	A	X	A	D	A	D	D	A	A
Corn Oil	B	D	A	A	C	A	D	A	A	A	A	X	A	B	C	B	X
Cottonseed Oil	B	B	A	A/70	C	A/70	A/70	A	X	X	A	B	A	A	C	A	X
Creosols	D	C	A	X	D	D	D	A	D	X	D	B	A/150	B	C	A	B
"Creosote, Coal Tar"	D	D	A	D	D	D	D	A	D	X	D	D	X	B	B	B	B
"Creosote, Wood"	D	D	A	D	C	C	D	A	D	X	D	D	X	X	X	B	X
Cresylic Acid (Cresol)	D	B	A	D	D	D	D	A	D	X	C	D	A/150	C	A	A	B
Crotonaldehyde	X	B	A	X	D	D	A	D	X	X	X	X	X	A	A	A	A
Crude Oil	C	C	A	B	B	D	D	A	B	X	B/150	D	A/120	A	A	A	B
Cumene (Isopropylbenzene)	D	D	A	X	D	D	D	A	A	X	X	X	X	B	B	B	B
Cutting Oil (Water Soluble)	C	D	A	X	D	A	D	A	A	X	X	X	X	A	A	A	A
Cutting Oil (Sulfur Base)	B	D	A	X	C	A	D	A	A	X	X	X	X	A	A	A	A
Cyclohexane	A	C	A	A	D	B	D	A	A	X	C/70	A	A	A	B	A	B
Cyclohexanol	C	D	A	X	A	B	C	A	A	X	B/70	A	A/150	C	B	B	A

# COMPATIBILITY GUIDE



A = Excellent, B = Good, C = Fair to Poor, D = Not recommended

X or Brackets around a rating letter, no data is available, but the ratings are made on the basis of exposure test in similar chemical groups.

\*All degrees are in Fahrenheit

MATERIAL	NITRILE	SANTOPRENE®	PTFE	HYTREL®	NEOPRENE®	URETHANE	EPR/EPDM	VITON®	UHMW-PE	LEATHER	POLYPROPYLENE	ACETAL	PVDF	ALUMINUM	CAST IRON	STAINLESS	HASTELLOY®
Cyclohexanone	D	D	A	D	D	D	C	D	B	X	D	A	B70	B	B	B	B
Cyanic Acid	D	B	A	X	D	D	A	D	A	X	X	D	X	X	D	A	X
P-Cymene	D	B	A	X	D	D	D	A	X	X	X	X	X	X	X	X	X
Decalin	D	C	A	X	D	D	D	A	C	X	B/120	X	A/175	X	X	X	X
Decanal	X	D	A	X	D	X	D	D	X	X	X	X	X	X	X	X	X
Decane	A	B	A	X	D	B	D	A	X	X	A/70	X	A	X	X	X	X
Decyl Alcohol (Decanol)	X	X	A	X	D	D	X	B	X	X	X	X	X	X	X	X	X
De-Ionized Water	A	A	A	A	A	X	A	A	A	X	A	X	A	A	C	A	A
Degreasing Fluid (Chlorinated)	D	D	A	X	D	A	D	A	X	X	X	X	X	X	X	X	X
Denatured Alcohol	A	B	A	X	A	D	A	B	X	X	A	A	A	A	A	A	A
Detergent Solutions	B	B	A	B	B	A	A	A	A	X	A	A	A	A	A	A	X
Developing Fluids (Photo)	X	A	A	D	A	D	B	A	A	X	X	A	X	X	D	A	A
Dextrose	A	A	A	B/140	B	A	A	A	A	X	A	X	A	A	D	A	A
Dextron	C	D	A	X	B	B	D	A	X	X	X	X	X	X	X	X	X
Diacetone Alcohol (Diacetol)	D	B	A	C	D	D	A	D	X	X	B	A	A/70	A	A	A	A
Diamylamine	X	B	A	X	D	D	A	D	X	X	X	X	X	X	X	X	X
Diazinon	D	D	A	D	C	D	D	B	X	X	X	X	X	X	X	X	X
Dibenzyl Ether	X	C	A	X	D	B	C	C	X	X	X	X	C	B	B	B	B
Dibenzyl Sebacate	D	C	A	X	D	B	B	B	X	X	X	X	X	X	X	X	X
Dibromoethyl Benzene	D	C	A	X	D	D	D	A	X	X	X	X	X	X	X	X	X
Dibutyl Amine	D	C	A	X	D	D	D	B	X	X	D	X	B	X	X	X	X
Dibutyl Ether	D	B	A	X	D	D	C	C	X	X	X	X	X	X	X	X	X
Dibutyl Phthalate	B	B	A	A	D	C	A	B	A	A	B	X	D	A	A	A	A
Dibutyl Sebacate	D	B	A	A	D	D	B	B	X	X	B/72	X	D	X	A	A	X
Dichloroacetic Acid	X	B	A	X	D	X	C	D	X	X	X	X	X	X	X	X	X
Dichlorethane	D	D	A	D	D	D	D	B	C	X	A	A	A/70	X	D	A	B
P-Dichlorobenzene	D	D	A	D	D	D	D	A	D	X	B	B	A/150	D	B	B	A
Dichlorobutane	X	X	A	X	D	D	D	A	X	X	X	X	X	D	B	B	X
Dichloroethyl Ether	X	X	A	X	X	X	X	X	X	X	X	X	X	B	X	X	X
Dichloro Isopropyl Ether	D	D	A	D	D	B	C	C	X	X	D	X	X	D	X	X	X
Dichloropentane	D	D	A	X	D	D	D	A	X	X	X	X	X	X	X	X	X
Dicyclohexylamine	D	B	A	X	D	D	D	D	X	X	X	X	X	X	X	X	X
Diesel Oil (Fuel ASTM #2)	B	D	A	B	D	B	D	A	D	X	B/70	A	A	A	A	A	A
Di-Ester Lubricant Mil-L-7808	C	D	A	X	D	D	D	A	X	X	X	X	X	X	X	X	X
Di-Ester Synthetic Lubricants	D	D	A	D	D	D	D	A	X	X	X	X	X	A	A	A	A
Diethanol Amine	D	X	A	D	D	D	A	D	X	X	A	X	X	A	A	A	A
Diethyl Amine	D	C	A	X	B	C	B	D	X	X	A	X	A/70	B	D	B	X
Diethyl Aniline	D	B	A	X	D	D	B	C	X	X	A	X	A	X	X	X	X
Diethyl Benzene	D	C	A	X	D	D	D	A	D	X	X	X	X	X	X	X	X
Diethyl Carbonate	D	D	A	X	D	D	D	A	X	X	X	X	X	X	X	X	X
Diethyl Ether	D	B	A	C	D	A	D	D	D	X	D	A	A/70	B	B	B	B
Diethyl Phthalate (Dep)	B	A	A	A	X	X	X	C	X	X	X	X	X	A	A	A	A
Diethyl Sebacate	B	B	A	A	D	D	B	A	X	X	A/120	X	A/120	A	A	A	A
Diethyl Sulfate	D	B	A	X	A	D	A	D	X	X	X	X	X	X	X	X	X

# COMPATIBILITY GUIDE

A = Excellent, B = Good, C = Fair to Poor, D = Not recommended

X or Brackets around a rating letter, no data is available, but the ratings are made on the basis of exposure test in similar chemical groups.

\*All degrees are in Fahrenheit



MATERIAL	NITRILE	SANTOPRENE®	PTFE	HYTREL®	NEOPRENE®	URETHANE	EPR/EPDM	VITON®	UHMW-PE	LEATHER	POLYPROPYLENE	ACETAL	PVDF	ALUMINUM	CAST IRON	STAINLESS	HASTELLOY®
Diethylene Ether (Dioxane)	D	D	A	X	X	X	D	X	X	X	X	X	X	A	A	A	X
Diethylene Glycol	A	A	A	A	A	D	A	A	A	X	A	D	X	A	A	A	A
Diethylene Triamine	D	B	A	X	D	D	A	D	X	X	X	X	X	A	A	A	A
Difluorodibromomethane	D	B	A	D	D	D	B	X	X	X	X	X	X	X	X	X	X
Diisobutyl Ketone	D	B	A	X	D	D	A	D	X	X	X	X	X	A	A	A	A
Diisobutylene	C	C	A	D	C	D	D	A	A	X	A/120	A	A	B	B	B	X
Diisodecyl Adipate (D10A)	X	X	A	X	X	X	X	C	X	X	X	X	X	X	X	X	X
Diisodecyl Phthalate (D10P)	X	X	A	X	D	X	A	C	X	X	X	X	X	X	X	X	X
Diisooctyl Adipate (D10A)	X	X	A	X	X	X	X	C	X	X	X	X	X	A	A	A	A
Diisooctyl Phthalate (D10P)	D	C	A	X	X	X	B	C	X	X	X	X	X	X	X	X	X
Diisooctyl Sebacate	D	D	A	X	D	D	C	B	X	X	X	X	X	X	X	X	X
Diisopropyl Amine	C	X	A	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Diisopropyl Benzene	D	C	A	D	D	D	D	A	X	X	X	A	X	X	X	X	X
Diisopropyl Ketone	D	C	A	X	D	D	A	D	X	X	X	A	A	X	X	A	X
Dimethylaniline	D	B	A	X	D	D	B	C	A	X	A	D	A/70	A	X	X	B
Diemethyl Formamide	C	A	A	B	D	D	B	D	A	X	A/120	C	D	A	A	A	A
Diemethyl Phthalate	D	A	A	A	D	D	B	A	X	X	A	X	A/70	A	A	A	A
Dipentene	C	C	A	X	D	D	D	A	X	X	X	X	X	A	A	A	A
Diphenyl	D	C	A	X	D	D	D	A	X	X	X	X	A/120	A	A	A	A
Diphenyl Oxides	D	C	A	X	D	D	D	A	X	X	X	D	A	B	A	A	B
Dipropylamine	X	X	A	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Dipropylene Glycol	A	A	A	X	X	X	X	A	X	X	A	X	A	X	X	X	X
Dipropyl Ketone (Butyrene)	D	X	A	D	X	X	X	D	X	X	X	X	X	X	X	X	X
Dispersing Oil #10	D	X	A	X	D	X	D	C	X	X	X	X	X	A	A	A	A
Divinyl Benzene (DVB)	D	D	A	X	D	X	D	A	X	X	X	X	X	X	X	X	X
Dodecyl Benzene (Alkane)	D	X	A	X	X	X	X	A	X	X	X	X	X	A	A	A	X
Dow (Silicones)	A	A	A	B	A	A	A	A	X	X	X	X	X	A	X	X	X
Dowtherm A	D	D	A	B	D	D	D	A	X	X	B	X	X	C	B	A	X
Dowtherm E	D	D	X	B	D	D	D	A	X	X	B	X	X	X	X	X	X
Dry Cleaning Fluid	D	D	A	X	D	D	D	A	D	X	D	X	A	A	A	A	X
DTE Light Oil	B	D	B	B	B	D	D	A	A	X	X	X	X	X	X	X	X
Epichlorohydrin	D	B	A	D	D	D	C	D	X	X	A	A	C	D	A	A	A
Epsom Salts	A	A	A	X	A	X	A	A	A	X	A	B	A	A	A	A	B
Esam-6 Fluid	X	B	X	X	B	X	A	D	X	X	X	X	X	X	X	X	X
"Esstic 42, 43"	A	D	X	D	B	B	D	A	X	X	X	X	X	X	X	X	X
Ethane	C	C	A	X	B/70	B/70	D	A	X	X	C	A	X	A	A	A	A
Ethanol (Ethyl Alcohol)	A	A	A	A	A	D	A	A	A	X	A	A	A	B	A	A	A
Ethanolamine (Aminoethanol)	B	A	A	X	B	C	B	D	A	X	B	D	C	B	B	A	B
Ethanol Chloride	D	B	A	X	D	X	C	B	X	X	X	X	X	X	X	X	X
Ethers	D	C	A	X	D	D	C	D	D	A	C	A	A/70	A	C	A	B
Ethyl Acetate	D	A	A	B	D	D	B	D	B	X	A	A/120	A	B	A	A	B
Ethyl Acetoacetate	D	B	A	D	D	D	A	D	A	X	X	A	A/70	A	A	A	A
Ethyl Acrylate	D	C	A	X	D	D	B	D	X	X	D	A	C	A	A	A	A
Ethylacrylic Acid	D	C	A	X	B	D	B	D	X	X	X	X	X	X	X	X	X

# COMPATIBILITY GUIDE

A = Excellent, B = Good, C = Fair to Poor, D = Not recommended

X or Brackets around a rating letter, no data is available, but the ratings are made on the basis of exposure test in similar chemical groups.

\*All degrees are in Fahrenheit



MATERIAL	NITRILE	SANTOPRENE®	PTFE	HYTREL®	NEOPRENE®	URETHANE	EPR/EPDM	VITON®	UHMW-PE	LEATHER	POLYPROPYLENE	ACETAL	PVDF	ALUMINUM	CAST IRON	STAINLESS	HASTELLOY®
Ethyl Alcohol (Ethanol)	A	A	A	A	A	D	A	A/70	A	X	A	X	A	B	B	A	A
Ethyl Aluminium Dichloride	D	X	A	X	X	X	X	B	X	X	X	X	X	X	X	X	X
Ethyl Amine (Monoethylamine)	X	X	A	X	D	D	A	D	X	X	X	X	X	B	B	A	X
Ethyl Benzene	D	D	A	X	D	D	D	A	A	X	D	A	C	A	B	B	A
Ethyl Benzoate	D	C	A	X	D	D	D	A	X	X	B/70	A	X	A	A	A	A
Ethyl Bromide	C	X	A	X	D	D	D	A	X	X	D	X	X	A	A	A	X
Ethyl Butyl Acetate	D	X	A	X	X	X	X	D	X	X	X	X	X	X	X	X	X
Ethyl Butyl Alcohol	A	X	A	D	X	D	X	B	X	X	X	X	X	X	X	X	X
Ethyl Butyl Ketone	D	X	A	X	X	X	X	D	X	X	X	X	X	X	X	X	X
Ethyl Butyraldehyde	D	X	A	X	X	X	X	D	X	X	X	X	X	X	X	X	X
Ethyl Butyrate	D	X	A	X	D	X	D	C	C	X	B/70	X	X	B	A	A	A
Ethyl Caprylate	D	X	A	X	D	X	D	X	X	X	X	X	X	X	X	X	X
Ethyl Cellosolve	C	B	A	X	D	D	B	D	X	X	X	A	X	X	X	X	X
Ethyl Cellulose	B	A	A	B	B	B	B	D	X	X	X	A	X	B	A	B	B
Ethyl Chloride	C	D	A	C	D	C	A/140	A	D	X	D	A	A	D	C	A	B
Ethyl Chlorocarbonate	D	A	A	D	D	D	D	A	X	X	X	A	X	D	A	X	X
Ethyl Chloroformate	D	C	A	D	D	D	D	A	X	X	D	A	X	D	X	X	X
Ethyl Cyanide (Propionitrile)	D	X	A	X	B	X	A	D	X	X	X	X	X	X	X	X	X
Ethylcyclopentane	X	X	X	X	C	A	D	A	X	X	X	X	X	X	X	X	X
Ethyl Ether	D	D	A	X	D	D	D	D	D	X	C/70	A/70	B/170	B	B	A	B
Ethyl Formate	D	B	A	D	B	X	B	A	C	X	X	A	X	C	A	B	B
Ethyl Hexyl Acetate	X	X	A	D	X	X	X	D	X	X	X	X	X	X	X	X	X
Ethyl Hexyl Alcohol (Ethylhexanol)	A	A	A	D	A	D	A	A	X	X	X	X	X	A	A	A	A
Ethyl Iodide	X	X	A	X	D	X	C	B	X	X	X	X	X	X	X	X	X
Ethyl Isobutyrate	X	X	A	X	D	X	D	X	X	X	X	X	X	X	X	X	X
Ethyl Mercaptan	D	C	A	X	D	A	D	B	X	X	X	X	X	B	A	B	B
Ethyl Oxalate	D	B	A	D	D	A	A	B	X	X	X	X	X	A	X	X	X
Ethyl Pentachlorobenzene	D	D	A	X	D	C	D	A	X	X	D	X	X	D	X	X	X
Ethyl Propionate	D	D	A	D	D	X	D	X	X	X	X	X	X	A	A	A	A
Ethyl Silicate	B	B	A	B	A	D	A	A	X	X	X	X	X	B	A	A	A
Ethyl Sulfate	D	B	A	X	A	D	A	D	X	X	X	X	X	X	X	D	X
Ethylene (Ethene)	B	C	A	D	C	B	D	A	X	X	X	A	X	A	A	A	X
Ethylene Chloride	D	D	A	C	D	D	C	C	C	X	C/70	A	A	B	C	A	B
Ethylene Chlorohydrin	D	C	A	D	B	D	B	A	X	X	D	C/70	A/70	B	B	B	X
Ethylene Diamine	B	A	A	X	A	D	A	D	A	X	A	A	B/70	A	A	A	C
Ethylene Dibromide	D	D	A	X	D	D	D	A	X	X	B/70	X	A	D	B	A	B
Ethylene Dichloride	C	C	A	C	D	D	D	B	D	A	D	A	A	B	A	A	A
Ethylene Glycol	A	A	A	A/70	A	B	A	A	A	X	A	B	A	B	B	A	A
Ethylene Oxide	A	A	A	A	D	D	B	D	X	X	C/125	A	A/70	D	C	A	X
Ethylene Trichloride	X	X	A	X	D	D	D	A	X	X	D	X	A	D	A	A	X
Ethylidene Chloride	D	D	A	X	D	X	D	X	X	X	X	X	X	D	B	A	B
Fatty Acids	B	B	A	D	B/70	D	D	A	A	A	B/140	B	A	B	D	A	A
Ferric Chloride	A	A	A	B/140	A/140	A/70	A/176	A/176	D	A	A	X	A	D	D	D	B
Ferric Hydroxide	B	B	A	X	B	X	B	B	X	X	X	X	X	X	X	A	B

# COMPATIBILITY GUIDE

A = Excellent, B = Good, C = Fair to Poor, D = Not recommended

X or Brackets around a rating letter, no data is available, but the ratings are made on the basis of exposure test in similar chemical groups.

\*All degrees are in Fahrenheit



MATERIAL	NITRILE	SANTOPRENE®	PTFE	HYTREL®	NEOPRENE®	URETHANE	EPR/EPDM	VITON®	UHMW-PE	LEATHER	POLYPROPYLENE	ACETAL	PVDF	ALUMINUM	CAST IRON	STAINLESS	HASTELLOY®
Ferric Nitrate	A	A	A	D	B	A/70	A	A	A	A	A	A	A	D	D	A	A
Ferric Sulfate	A	A	A	A	A	A	A	A	A	X	A	B	A	D	D	A	A
Ferrous Chloride	B	A	A	A	A	D	A	A	A	X	A	B	A	D	D	D	B
Ferrous Sulfate (Copperas)	A	A	A	A	A	A	A	A	A	X	A	B/70	A	D	D	A	B
Fish Oil	A	B	A	B	B	B	D	A	A	X	X	X	X	X	X	X	X
Fluorine (Anhydrous)	D	D	B	D	D	D	D	B	X	X	D	A	A/70	D	D	A	B
Fluoroboric Acid	A	A	A	D	A	D	A	A	A	X	A	X	A	D	D	B	A
Fluorobenzene	D	C	A	X	D	X	D	A	X	X	D	A	X	D	X	X	X
Fluorocarbon Oil	D	D	A	X	A	X	A	X	X	X	D	X	X	D	A	A	A
Fluorochloroethylene	D	C	A	X	D	X	D	A	X	X	X	X	X	X	X	X	X
Fluorinated Cyclic Ethers	D	D	A	X	D	X	A	A	X	X	X	X	X	X	X	X	X
Fluorolube (Fluoro Carbonoil)	X	X	A	D	A	X	A	B	X	X	D	X	X	A	A	A	A
Fluorosulfonic Acid	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Fluosilicic Acid	A	A	A	B	A	B	B	A/140	A	X	A	X	A	D	D	B	B
Formaldehyde	A	A/70	A	B	B	D	A	A	A	X	A	A	A	A	D	A	B
Formamide	A	A	A	D	A	X	A	D	X	X	X	X	X	A	B	B	B
Formic Acid	A	A	A	B	D	D	B	B	A	X	A	D	A	D	D	A	A
Freon 11	C	B	A	A	B	D	D	C	X	X	D	A	A	C	A	A	A
Freon 12	C	D	A	A	A	A/130	B	B	X	X	B	A	A	A	A	A	A
Freon 13	D	X	A	C	A	C/70	A	A	X	X	D	A	A	A	A	A	A
Freon 13B1	D	X	A	X	A	A	A	A	X	X	X	X	X	X	X	X	X
Freon 14	A	X	A	X	A	A/170	A	A	X	X	X	X	X	X	X	X	X
Freon 21	D	X	A	X	D	X	D	D	X	X	D	A	A	D	X	X	X
Freon 22	D	D	A	D	A	D	A	D	X	X	D	A	A	D	D	A	A
Freon 31	D	X	A	X	A	X	A	D	X	X	X	A	X	D	X	X	X
Freon 32	D	X	A	X	A	X	A	D	X	X	X	A	X	D	X	X	X
Freon 112	B	X	A	X	B	B/70	D	A	X	X	X	A	X	D	X	X	X
Freon 113	D	D	A	A	A	B	D	B	X	X	D	A	A	D	X	A	A
Freon 114	B	X	A	A	A	A/70	D	A	X	X	D	A	A	C	X	A	X
Freon114B2	X	X	A	X	A	X	D	B	X	X	X	X	X	X	X	X	X
Freon 142b	X	X	A	X	A	X	A	D	X	X	X	A	X	D	X	X	X
Freon 152a	X	X	X	X	X	X	X	X	X	X	X	A	X	C	X	X	X
Freon 152a	X	X	A	X	A	X	A	D	X	X	X	A	X	D	X	X	X
Freon 218	X	X	A	X	A	X	X	A	X	X	X	A	X	D	X	X	X
Freon 502	X	X	A	D	A	X	A	B	X	X	X	A	X	D	X	X	X
Freon, BF	X	X	A	X	B	X	D	A	X	X	X	X	X	D	X	X	X
Freon C316	X	X	A	X	A	X	A	A	X	X	X	A	X	D	X	X	X
Freon C318	X	X	A	X	A	X	A	A	X	X	X	A	X	D	X	X	X
Freon K-142B	X	X	X	X	X	X	X	X	X	X	X	A	X	D	X	X	X
Freon K-152a	X	X	X	X	X	X	X	X	X	X	X	A	X	D	X	X	X
Freon, MF	X	X	A	A	D	D	D	D	X	X	X	X	X	D	X	X	X
Freon, PCA	X	X	X	X	A	A	D	B/70	X	X	X	X	X	D	X	X	X
Freon, TF	X	D	A	A	A	B	D	B	X	X	X	A	B	D	A	A	A
Freon T-WD602	X	X	A	X	B	A	B	A	X	X	X	X	X	D	X	X	X

# COMPATIBILITY GUIDE

A = Excellent, B = Good, C = Fair to Poor, D = Not recommended

X or Brackets around a rating letter, no data is available, but the ratings are made on the basis of exposure test in similar chemical groups.

\*All degrees are in Fahrenheit



MATERIAL	NITRILE	SANTOPRENE®	PTFE	HYTREL®	NEOPRENE®	URETHANE	EPR/EPDM	VITON®	UHMW-PE	LEATHER	POLYPROPYLENE	ACETAL	PVDF	ALUMINUM	CAST IRON	STAINLESS	HASTELLOY®
Freon TMC	X	X	A	A	B	B	B	A	X	X	X	X	X	D	X	X	X
Freon T-P35	X	X	A	X	A	A	A	A	X	X	X	X	X	D	X	X	X
Freon TA	X	X	A	X	A	A	A	C	X	X	X	X	X	D	X	X	X
Freon TC	X	X	A	X	A	A	B	A	X	X	X	X	X	D	X	X	X
Fuel Oil	B	C	A	B	A	D	D	A	D	A	A	B	A	A	A	A	A
Fumaric Acid (Boletic Acid)	X	A	A	B	B	X	B	A	C	X	X	X	X	X	X	X	X
Fuming Sulph. Acid (20/50% Oleum)	D	X	A	D	D	D	D	A	X	X	X	X	X	X	X	X	X
Furan (Furfuran)	D	A	A	X	D	X	D	D	X	X	C	X	D	A	A	A	X
Furfural (Ant Oil)	D	A	A	B	C	D	A	D	B	X	D	B	B/120	A	B	A	B
Furfuryl Alcohol	D	C	A	B	D	D	B	D	X	X	X	X	B/100	A	A	A	A
Furyl Carbinol	D	X	A	X	D	D	B	D	X	X	X	X	X	X	X	X	X
Fusel Oil (Grain Oil)	X	X	A	X	B	C/70	A	A	X	X	X	X	X	X	X	X	X
Gallic Acid	D	B	A	D	B	D	B	A	A	A	A	X	A/70	A	D	B	B
Gasoline (Aviation)	D	C	A/170	A	D	C	D	A	C	A	D	A	A	X	X	X	X
Gasoline (Leaded)	C	C	A	A	D	C	D	A	X	X	D	A	A	A	A	A	A
Gasoline (Unleaded)	C	C	A	X	D	D	D	A	B	X	D	A	A	A	A	A	A
Gelatin	A	A	A	B	A	D	A	A	A	X	A	B	A	A	D	A	A
Glacial Acetic Acid	D	A	A	D	D	D	A	D	X	X	X	X	X	X	X	X	X
Glauber's Salt	X	X	A	B	A	A	B	A	A	X	X	X	X	X	X	X	X
Glucose (Corn Syrup)	A	A	A	B	A	A	A	A	A	A	A	A	A	A	B	A	A
Glue	D	A	A	A	A	A	A	A	A	X	A	B	A	B	A	A	A
Glycerine - Glycerol	A	A	A	A	A	D	A	A	A	A	A	A	A	A	B	A	A
Glycolic Acid	A	X	A	X	A	X	X	A	A	X	A	A	A/70	X	X	X	A
Grape Juice	A	A	X	X	A	D	A	A	A	X	A	B	A	B	D	A	X
Grapefruit Oil	X	A	A	X	D	X	X	A	X	X	X	X	X	X	D	A	X
Grease (Ester Base)	C	B	A	X	X	X	X	X	X	X	A	A	A	A	A	A	A
Grease (Petroleum Base)	A	D	A	A	D	A	D	A	X	X	A	A	A	A	A	A	A
Grease (Silicone Base)	A	B	A	X	X	X	X	X	X	X	A	A	A	A	A	A	A
Green Sulfate Liquor	B	A	A	D	B	A	A	A	A	X	A	X	X	B	C	A	B
Halothane	D	X	X	X	D	D	X	A	X	X	X	X	X	X	X	X	X
Halowax Oil	D	D	A	X	D	X	D	A	X	X	X	X	X	D	X	X	X
Hannifin Lube A	A	D	X	X	A	A	D	A	X	X	X	X	X	X	X	X	X
Heavy Water	A	B	X	B	X	D	A	X	X	X	X	X	X	A	C	A	A
HEF - 2 (High Energy Fuel)	B	D	X	X	A	D	D	A	X	X	X	X	X	X	X	X	X
Helium	A	A	A	X	A	A	A	A	X	X	A	A	X	A	A	A	X
Heptane	B	C	A	B	A	B	D	A	X	A	B/70	A	A	A	A	A	A
N-Hexaldehyde	D	C	A	D	A	B	A	D	X	X	X	X	X	A	A	A	X
Hexane	B	C	A	A	D	B	D	A	X	A	B/70	A	A	A	A	A	A
Hexanol	A	C	A	D	D	D	A	A	X	X	A/70	A/70	X	A	A	A	A
Hexyl Alcohol	B	B	A	D	B	D	A	B	A	X	X	X	A	A	A	A	X
Hexylene Glycol	X	X	A	D	A	X	C/70	A	X	X	X	X	X	A	A	A	A
Hilo MS #1	D	X	X	D	D	B	A	D	X	X	X	X	X	X	X	X	X
Houghto-Safe 271 (Water & Glycol Base)	X	A	A	B	B	D	A	B	X	X	X	X	X	X	X	X	X
620 Water/Glycol	B	A	A	A	B	B	A	B	X	X	X	X	X	X	X	X	X

# COMPATIBILITY GUIDE

A = Excellent, B = Good, C = Fair to Poor, D = Not recommended

X or Brackets around a rating letter, no data is available, but the ratings are made on the basis of exposure test in similar chemical groups.

\*All degrees are in Fahrenheit



MATERIAL	NITRILE	SANTOPRENE®	PTFE	HYTREL®	NEOPRENE®	URETHANE	EPR/EPDM	VITON®	UHMW-PE	LEATHER	POLYPROPYLENE	ACETAL	PVDF	ALUMINUM	CAST IRON	STAINLESS	HASTELLOY®
1010, Phosphate Ester	D	A	A	B	D	A	A	A	X	X	X	X	X	X	X	X	X
1055, Phosphate Ester	D	A	A	B	D	A	A	A	X	X	X	X	X	X	X	X	X
1120, Phosphate	D	A	A	B	D	A	A	A	X	X	X	X	X	X	X	X	X
5040 (Water/Oil Emulsion)	A	D	A	B	B	D	D	A	X	X	X	X	X	X	X	X	X
Hydraulic Oils (Petroleum)	A	D	A	A	B	X	D	A	A	A	D	B	X	A	A	A	A
Hydraulic Oils (Synthetic)	A	D	A	A	D	B	D	A	A	X	D	B	X	A	A	A	A
Hydrazine (Diamine)	D	A	A	D	B	D	A	D	X	X	C	B	A/120	A	D	A	A
Hydrobromic Acid	D	B	A	X	D	X	A	X	A	X	B	D	A	D	D	D	A
Hydrochloric Acid 20%	D	A	A	D	D	B	A	A	A	X	A	D	A	D	D	D	A
Hydrochloric Acid 37%	D	B	A	D	D	D	B	A	A	X	A	D	A	D	D	D	A
Hydrocyanic Acid	D	A	A	D	B	D	A	A	A	X	A	D	A	A	D	A	A
Hydrofluoric Acid 20%	D	D	A	D	D	D	B	A	X	X	A	D	A	D	D	D	D
Hydrofluoric Acid 50%	D	D	A	D	D	D	B	A	X	X	B/70	D	A	D	D	D	D
Hydrofluoric Acid 75%	D	D	A	D	D	D	D	D	X	X	B/70	D	A	D	D	D	D
Hydrofluoric Acid Concentrated	D	D	A	D	D	D	D	D	A	X	D	D	A	D	D	D	D
Hydrofluosilicic Acid	D	B	A	B	B	D	A	A	A	X	A	X	A	D	D	D	B
Hydrogen	A	A	A	A	A	A	B	A	A	X	X	X	X	X	X	X	X
Hydrogen Chloride Gas	B	B	A	X	B	X	A	A	X	X	A/140	X	A	D	A	A	A/125
Hydrogen Cyanide Gas	A	A	A	D	D	D	A	A	X	X	A	X	A	D	A	B	X
Hydrogen Fluoride	D	X	B/70	D	X	D	B/70	A	X	X	A/70	X	X	D	X	D	A
Hydrogen Peroxide	C	A	A	D	D	C	C	A	A	X	A/70	D	A/70	A	D	A	A
Hydrogen Sulfide Dry	D	A	A	A	A	A	A	D	A	A	A	A	A	B	D	B	A
Hydrogen Sulfide Wet	D	A	A	A	A	D	A	D	A	X	A	C	A	D	D	A	A
Hydrolube-Water/Ethylene Glycol	A	A/250	A	B/150	B/70	D	A/70	A/70	X	X	A	D	A	A	A	A	A
Hydroquinone	C	A	A	X	D	X	D	C	A	X	A	A	A	A	B	B	B
Hydrene	B	D	A	X	B	X	A	D	X	X	X	X	X	X	X	X	X
Hydroxyacetic Acid	D	A	A	X	D	D	A/70/100%	D	X	X	X	C	X	D	B	B	X
Hypochlorous Acid	D	A	A	X	D	D	B	A	A	X	A	D	A	D	D	D	A
Hypoid Grease (Parapoid 10-C)	B	X	A	X	D	D	D	C	X	X	X	A	X	X	X	X	X
Ink (Printers)	A	A	A	A	A	A	A	A	A	A	X	A	A	C	D	A	A
Iodine	B	A	A	B	D	D	B	A	B	X	A	A	A/150	D	D	D	B
Iodine Pentafluoride	D	B	A	X	D	D	D	D	D	X	X	X	X	X	X	X	X
Iodoform	B	B	A	X	B	D	B	A	X	X	X	X	A	B	A	B	D
Isoamyl Acetate	D	X	A	X	D	D	B	D	X	X	X	X	X	A	A	A	A
Isoamyl Alcohol	X	X	A	X	A	C	A	A	X	X	X	X	X	X	X	X	X
Isoamyl Butyrate	D	X	A	X	X	X	X	D	X	X	X	X	X	A	A	A	A
Isoamyl Chloride	D	X	A	X	D	X	D	A	X	X	X	X	X	D	X	X	X
Iso Butane	X	X	A	X	D	A	D	A/70	X	X	X	X	X	X	X	X	X
Iso Butyl Acetate	D	X	A	X	D	X	C/70	D	X	X	X	X	X	A	A	A	A
Isobutyl Alcohol	B	A	A	X	A/80	D	A/160	A/75	A	X	A/70	A	A	B	C	A	A
Isobutyl Amine	D	X	A	X	X	X	X	D	X	X	X	X	X	X	X	X	X
Isobutyl Chloride	D	X	A	X	X	X	X	B	X	X	X	X	X	D	B	B	A
Isobutyric Acid	D	X	A	X	B	X	A	X	X	X	X	X	X	A	X	X	X
Iso-Butyl N-Butane	D	X	A	D	X	D	X	B	X	X	X	X	X	X	X	X	X

# COMPATIBILITY GUIDE

A = Excellent, B = Good, C = Fair to Poor, D = Not recommended

X or Brackets around a rating letter, no data is available, but the ratings are made on the basis of exposure test in similar chemical groups.

\*All degrees are in Fahrenheit



MATERIAL	NITRILE	SANTOPRENE®	PTFE	HYTREL®	NEOPRENE®	URETHANE	EPR/EPDM	VITON®	UHMW-PE	LEATHER	POLYPROPYLENE	ACETAL	PVDF	ALUMINUM	CAST IRON	STAINLESS	HASTELLOY®
Isocyanates	C	X	A	B	X	B	X	B	X	X	A	A	X	X	A	A	A
Isododecane	A	X	A	X	B/70	B/70	D	A/70	X	X	X	X	X	B	B	B	B
Isoocatane	C	C	A	A/158	B	A	A/70	A	A	X	A/120	X	A/70	A	A/70	A/70	A
Isopentane	A	X	A	X	D	B	D	A	X	X	X	X	X	X	X	X	X
Isophorone (Ketone)	D	B	A	X	D	D	A	D	X	X	X	X	X	A	A	A	A
Isopropanol (Isopropyl Alcohol)	A	B	A	A/70	B/120	B	A/160	A/170	X	A	A	A	A	A	A	A	A
Isopropyl Acetate	D	B	A	C	D	D	B	D	C	X	A	A	X	B	A	A	B
Isopropyl Alcohol (Isopropanol)	A	B	A	A	B	D	A	A	A	A	A	A	A	A	A	A	A
Isopropyl Amine	D	X	A	X	X	X	X	D	X	X	X	X	X	X	A	A	X
Isopropyl Benzene (Cumene)	D	X	A	X	D	D	D	A	D	X	X	X	X	X	X	X	X
Isopropyl Chloride	D	C	A	X	D	D	D	A	X	X	D	A	X	D	A	A	X
Isopropyl Ether	B	C	A	X	D	B	D	D	A	X	B/70	A	X	A	X	A	A
JP-1	C	D	A	X	D	C	D	A	A	X	D	A	A	A	A	A	A
JP-2	C	C	A	X	D	C	D	A	A	X	D	A	A	A	A	A	A
JP-3 (Mil-J-5624)	C	C	A	X	D	C	D	A	A	X	A/70	A	A	A	A	A	A
JP-4 (Mil-J-5624)	A	D	A	A	D	C	D	A	A	X	A/70	A	A	A	A	A	A
JP-5 (Mil-J-5624)	C	C	A	X	D	B	D	A	A	X	A/70	A	A	A	A	A	A
JP-6 (Mil-J-25656)	C	C	A	X	D	C	D	A	A	X	D	A	A	A	A	A	A
JP-X(Mil-F-25604)	A	C	A	X	B	X	D	D	A	X	D	A	A	A	A	A	A
Kel F Liquids	X	X	A	X	X	X	A	B	X	X	X	X	X	X	X	X	X
Kerosene	A	C	A	A	X	B	X	A	C	A	B/72	A	A	A	A	A	B
Ketones	D	C	A	D	D	D	A	D	C	A	D	A	A/70	B	X	A	A
Keystone #87HX-Grease	X	X	A	X	D	A	D	A	A	X	X	X	X	X	X	X	X
Lactam-Amino Acids	X	X	A	X	B	X	B	D	X	X	X	X	X	X	X	X	X
Lacquer Solvents	D	C	A	B	D	D	D	D	A	B	C	A	D	A	B	A	X
Lacquers	D	C	A	D	D	D	D	D	A	X	C	A	D	A	C	A	A
Lactic Acid- 5%Solution	B	A	A	D	A	B	A	A	A	X	A	A	A/70	C	D	A	B
Lactol	X	X	A	X	D	X	X	A	X	X	D	A	X	A	A	A	A
Lard Oil (Hot)	X	B	A	B	A	C	B	A	A	A	B	AA	A	A	A	A	A
Latex	A	A	A	X	A	D	A	A	X	X	A	A	X	A	X	A	X
Lauryl Alcohol (N-Dodecanol)	X	X	A	X	X	D	X	B	A	X	X	X	X	A	A	A	A
Lavender Oil	B	B	A	X	D	X	D	A	X	X	X	X	X	X	X	X	X
Lead Acetate	B	A	A	X	B	D	A	A	A	A	A	A	A	D	A	B	B
Lead Chloride	X	X	A	X	B	X	A	A	X	X	A	X	A	D	X	B	B
Lead Nitrate	A	X	A	X	A	X	A	A	A	X	A	X	A	D	B	B	B
Lead Sulfamate	A	A	A	X	A	X	A	A	X	X	A	A	A	C	X	X	X
Lehigh X1169	X	X	A	X	B	A	D	A	X	X	X	X	X	X	X	X	X
Lehigh X1170	X	X	A	X	B	A	D	A	X	X	X	X	X	X	X	X	X
Lemon Oil	X	C	A	X	C	X	C	A	X	X	X	X	X	A	X	A	X
Light Grease	X	X	A	X	D	A	D	A	X	X	X	A	X	X	X	X	X
Ligroin (Petro Ether or Benzine)	B	B	A	X	B	C	D	A	X	X	B/175	B	A	X	A	A	X
Lignin Liquor	X	X	A	X	A	D	D	A	X	X	X	X	X	X	X	A	X
Lime	A	A	A	A	A	B	A	A	X	X	B	X	A	C	A	A	X
Lime Bleach	B	A	A	X	B	X	A	A	X	X	B	X	X	D	X	A	X

# COMPATIBILITY GUIDE

A = Excellent, B = Good, C = Fair to Poor, D = Not recommended

X or Brackets around a rating letter, no data is available, but the ratings are made on the basis of exposure test in similar chemical groups.

\*All degrees are in Fahrenheit



MATERIAL	NITRILE	SANTOPRENE®	PTFE	HYTREL®	NEOPRENE®	URETHANE	EPR/EPDM	VITON®	UHMW-PE	LEATHER	POLYPROPYLENE	ACETAL	PVDF	ALUMINUM	CAST IRON	STAINLESS	HASTELLOY®
Lime Slurries	A	A	A	X	A	B	C	D	X	X	X	X	X	B	X	B	X
Lime Sulfur	A	B	A	X	A	A	A	A	A	X	A	X	A	D	X	A	X
"Lindol, Hydraulic Fluid"	D	A	A	X	D	D	A	B	X	X	X	X	X	X	X	X	X
Limonene	D	X	A	X	D	X	D	A	X	X	X	X	X	X	X	X	X
Linoleic Acid	B	B	A	X	D	X	D	B	A	X	A	X	A	A	X	A	A
Linseed Oil	A	B	A	B	A	B	C	A	X	X	A	A	A	A	A	A	A
Liquid Oxygen	D	X	A	X	D	D	D	D	X	X	X	X	X	X	X	X	X
Liquid Petroleum Gas (LPG)	D	C	A	B	C	C	D	A	X	X	D	A	X	X	X	X	A
Liquimoly	A	X	A	X	B	B/70	D	A	X	X	X	X	X	X	X	X	X
Lithium Bromide	A	X	A	X	D	D	A	A	X	X	X	X	A	X	A	X	X
Lithium Chloride	A	X	A	X	A	D	A	A	D	X	A/125	A	X	D	B	A	A
Lithium Hydroxide	D	X	A	X	D	D	A	C	D	X	A/70	X	X	D	B	B	B
Lubricating Oil Di-Ester	A	D	A	D	C	D	D	A	A	X	X	X	X	X	X	X	X
Petroleum Base	B	D	A	A	B/150	B/70	D	A	B	X	C	A	A	A	A	A	A
SAE 10,20, 30, 40, 50	A	D	A	A	D	A	D	A	A	X	C	A	A	A	A	A	A
Lye Solutions	B	A	A	C	A	B	A	B	A	X	A	D	A/150	X	X	A	X
Lysol	B	X	A	X	B	X	X	X	X	X	X	X	X	X	X	X	X
Magnesium Bisulfite	C	X	A	X	B	X	X	X	X	X	X	X	X	X	X	X	X
Magnesium Carbonate	A	A	A	X	A	B	B	A	A	X	A	A	A	D	B	A	B
Magnesium Chloride	A	A	A	B	A	X	A	A	A	A	A	B	A	D	D	D	A
Mag. Hydroxide (Milk of Magnesia)	A	A	A	B	A	A	A	A	A	A	A	A	A	D	B	A	A
Magnesium Nitrate	A	A	A	X	A	B	A	A	A	X	A	A	A	D	D	A	A
Magnesium Oxide	A	A	A	X	A	X	A	A	X	X	X	A	X	B	A	A	A
Magnesium Salts	A	A	A	X	A	A	A	A	X	X	X	X	X	X	X	X	X
Magnesium Sulfate	B	A	A	B	A	D	A	A	B	A	B	A	A	D	C	A	B
Magnesium Sulfite	B	A	A	X	A	X	A	A	X	X	X	X	X	X	X	X	X
Malathion	X	X	A	D	X	D	D	A	X	X	X	X	X	X	X	X	X
Maelic Acid	A	A	A	X	D	D	A	A	A	A	B	A	A	B	A	A	B
Maelic Anhydride	D	A	A	X	D	X	D	A	X	X	X	A	X	A	B	A	A
Malic Acid	B	A	A	X	B	X	D	A	X	A	B	A	A	B	D	A	B
Manganese Chloride	A	X	A	X	B	B	C	A	A	X	A	X	X	X	D	X	B
Malt Beverages	B	A	A	X	A	B	A	A	A	X	X	X	X	X	X	X	X
Maple Sugar Liquors (Sucrose)	A	A	A	X	A	D	A	A	X	X	X	X	X	X	X	X	X
Mash	A	A	X	X	A	A	X	X	X	X	X	A	X	X	X	A	X
Mayonnaise	A	A	A	X	A	D	D	A	A	A	A	A	A	D	D	A	A
MCS 312	D	X	A	X	D	X	D	A	X	X	X	X	X	X	X	X	X
MCS 352	D	X	A	X	D	D	A	D	X	X	X	X	X	X	X	X	X
MCS 463	D	X	A	X	D	D	A	D	X	X	X	X	X	X	X	X	X
Melamine Resins	C	B	A	X	D	D	A	A	X	X	X	A	X	X	X	D	A
Mercaptan	D	X	A	X	D	D	A	D	X	X	X	X	X	X	X	X	X
Mercuric Chloride	A	A	A	B	A	A	A	A	A	X	A	B	A	D	D	D	B
Mercuric Cyanide	A	A	A	D	B	X	A	A	A	X	A	X	A	D	C	A	A
Mercurous Nitrate	B	X	A	X	B	X	A	A	A	X	A	X	A	D	B	B	B
Mercury	A	A	A	A	A	A	A	A	A	A	A	A	A	C	A	A	A

# COMPATIBILITY GUIDE

A = Excellent, B = Good, C = Fair to Poor, D = Not recommended

X or Brackets around a rating letter, no data is available, but the ratings are made on the basis of exposure test in similar chemical groups.

\*All degrees are in Fahrenheit



MATERIAL	NITRILE	SANTOPRENE®	PTFE	HYTREL®	NEOPRENE®	URETHANE	EPR/EPDM	VITON®	UHMW-PE	LEATHER	POLYPROPYLENE	ACETAL	PVDF	ALUMINUM	CAST IRON	STAINLESS	HASTELLOY®
Mesityl Oxide	D	C	A	X	D	D	B	D	X	X	X	X	X	A	A	A	A
Methane	B	C	A	B	B	C	D	A	X	X	B	A	A	A	X	A	A
Methanol	A	A	A	A	A	D	A	D	A	X	A/120	A	A	B	X	A	A
Methyl Acetate	D	B	A	C	D	D	B	D	X	X	C	A	B	A	A	A	A
Methyl Acetoacetate	D	X	A	X	D	D	B	D	X	X	X	X	X	X	A	A	A
Methyl Acetone	D	B	A	X	D	X	A	D	X	X	D	A	D	A	A	A	A
Methyl Acrylate	D	D	A	X	D	D	B	D	X	X	X	A	B	X	A	A	X
Methyl Acrylic Acid	X	A	A	X	C	D	B	C	X	X	X	A	X	X	X	X	X
Methyl Alcohol	A	A	A	A	C	D	A	C	A	A	A	A	A	B	A	B	A
Methyl Amine	B	X	A	X	C	X	A	C	X	X	X	A	C	B	A	A	B
Methyl Amyl Alcohol	B	X	A	X	D	X	X	D	X	X	X	X	X	A	A	A	A
Methyl Aniline	D	X	A	X	B	D	D	B	X	X	X	X	X	X	X	X	X
Methyl Benzoate	D	X	A	X	A	D	D	A	X	X	X	X	X	X	X	X	X
Methyl Bromide	B	D	A	X	A	D	D	A	C	X	D	A	A	D	A	A	B
Methyl Butyl Ketone	D	C	A	X	D	D	A	D	X	X	D	A	D	A	X	A	X
Methyl Butyrate	D	X	A	X	D	X	D	X	X	X	X	X	X	A	A	A	A
Methyl Carbonate	D	X	A	X	D	D	D	A	X	X	X	X	X	X	X	X	X
Methyl Cellosolve	C	B	A	X	B	D	B	D	X	X	B	A	A	A	C	X	X
Methyl Cellulose	B	X	A	X	B	B/70	B	D	X	X	X	X	X	X	X	X	X
Methyl Chloride	D	D	A	D	D	D	D	B	C	X	D	A	A	D	D	A	B
Methyl Chloroformate	D	X	A	X	D	D	D	A	X	X	X	X	X	X	X	X	X
Methyl Cyanide	C	X	A	X	A	X	A	D	X	X	X	X	X	X	X	X	X
Methyl Cyclopentane	D	C	A	X	D	D	X	A	A	X	X	A	X	X	X	X	X
Methyl D-Bromide	D	X	A	X	D	D	X	A	X	X	X	X	X	X	X	X	X
Methyl Dichloride	D	D	A	X	D	X	D	A	X	X	D	A	D	D	X	X	X
Methyl Ether	X	X	A	X	C	X	A	A	X	X	X	X	X	X	X	X	X
Methyl Ethyl Ketone (MEK)	B	B	A	B	D	D	A	D	D	X	C/125	B	D	A	A	A	A
Methyl Formate	D	B	A	X	B	D	B	D	X	X	X	A	X	A	B	B	X
Methyl Hexane	X	X	A	X	B	X	D	A	X	X	X	X	X	X	X	X	X
Methyl Iodide	D	X	A	X	D	X	A	X	X	X	X	X	X	D	A	A	A
Methyl Isopropyl Ketone	D	C	A	X	D	D	C	D	C	X	C	A	X	A	C	A	X
Methyl Methacrylate	D	B	A	X	D	D	D	D	X	X	A	A	B	B	C	A	X
Methyl Oleate	D	C	A	X	D	X	B	A	X	X	X	A	X	X	X	X	X
Methyl Salicylate	D	B	A	X	D	X	B	B	X	X	B	A	B	A	A	X	X
Methylamine	X	A	A	X	X	X	A	X	X	X	X	A	C	B	A	A	B
Methylene Bromide	D	X	A	X	D	X	D	C	X	X	X	X	A	D	A	A	A
Methylene Chloride	C	D	A	D	D	D	C	B	D	X	D	A	B	D	B	A	A
Methylene Dichloride	D	X	A	X	D	D	D	B	X	X	X	X	X	X	X	X	X
Milk	A	A	A	B	A	D	A	A	A	A	A	A	A	A	D	A	A
Mine Water	A	B	A	X	C	D	A	A	A	X	A	A	A	A	A	A	A
Mineral Oil	A	D	A	A	A	A	D	A	C	A	B	A	A	A	A	A	A
MLO-7277 Hydr.	X	X	A	X	D	D	D	A	X	X	X	X	X	X	X	X	X
MLO-75557	X	X	A	X	D	D	D	A	X	X	X	X	X	X	X	X	X
MLO-8200 Hydr.	X	X	A	X	A	A	D	A	X	X	X	X	X	X	X	X	X

# COMPATIBILITY GUIDE

A = Excellent, B = Good, C = Fair to Poor, D = Not recommended

X or Brackets around a rating letter, no data is available, but the ratings are made on the basis of exposure test in similar chemical groups.

\*All degrees are in Fahrenheit



MATERIAL	NITRILE	SANTOPRENE®	PTFE	HYTREL®	NEOPRENE®	URETHANE	EPR/EPDM	VITON®	UHMW-PE	LEATHER	POLYPROPYLENE	ACETAL	PVDF	ALUMINUM	CAST IRON	STAINLESS	HASTELLOY®
MLO-8515	X	X	A	X	B	D	D	A	X	X	X	X	X	X	X	X	X
Molasses	A	A	A	B	A	B	A	A	A	A	A	B	A	A	A	A	X
Monochloroacetic Acid	D	D	A	D	A	D	C	B	D	X	A	B	A	D	D	D	B
Monochlorobenzene	D	D	A	C	D	D	D	A	B	X	D	A	A/150	D	A	A	X
Monochlorodifluoro Methane	D	D	A	D	A	D	A	D	X	X	A	X	A	A	A	A	X
Monoethanolamine	D	A	A	D	B	D	B	D	X	X	D	D	D	B	A	A	X
Monomethylaniline	D	B	A	D	D	D	D	B	A	X	X	X	X	X	X	X	X
Monomethylether	A	C	A	D	B	X	A	A	X	X	X	X	X	X	X	X	X
Monomethyl Hydrazine	B	X	A	D	B	X	A	X	A	X	X	X	X	X	X	X	X
Mononitrotoluene & Dicitrotoluene (40/60 Mixture)	A	X	A	D	D	D	D	C	X	X	X	X	X	X	X	X	X
Muriatic Acid (10-20% HCL)	B	A	A	D	D	B	A	A	A	X	A	D	A	D	D	D	A
Mustard	B	A	A	B	A	B	A	A	A	X	A	A	X	B	X	A	A
Napalm	B	X	X	D	X	B	D	A	X	X	X	X	X	X	X	X	X
Naptha	A	C	A	A	D	C	D	A	C	A	C	A	A	A	B	A	A
Naptha-Coal Tar (Benzol)	D	C	A	D	D	B	D	A	X	X	C	A	A	A	A	A	A
Napthalene (Tar Camphor)	D	C	A	B	D	B	D	A	B	X	B	A	A	B	A	A	A
Napthenic Acid	B	B	A	D	D	X	D	A	X	X	X	A	X	B	B	A	B
Natural Gas	A	C	A	B	A	C	D	A	X	X	A	A	X	A	A	A	X
Neatsfoot Oil	A	B	A	D	D	A	B	A	X	X	X	B	X	A	A	A	X
Neohexane	A	X	A	D	X	X	X	A	X	X	X	X	X	X	X	X	X
Neosol	A	X	A	D	A	X	X	C	X	X	X	X	X	B	B	A	A
Neville Acid	D	A	A	D	D	X	B	A	X	X	X	X	X	X	X	X	X
Nickel Acetate	B	A	A	X	B	D	A	D	X	X	A	X	A	B	X	A	X
Nickel Ammonium Sulfate	C	A	A	X	A	X	X	A	X	X	X	X	X	X	X	X	X
Nickel Chloride	A	A	A	D	B	A	A	A	A	A	A	B	A	D	D	B	A
Nickel Nitrate	A	A	A	X	A	A	A	A	A	X	A	D	A	D	X	A	B
Nickel Salts	A	A	A	X	B	A	A	A	X	X	X	X	X	X	X	X	X
Nickel Sulfate	A	A	A	D	A	A	A	A	A	A	A	A	A	D	D	A	B
Nicotine	A	X	A	B	C	A	X	A	X	X	X	X	X	X	X	X	X
Nicotinic Acid	A	X	A	X	A	X	A	X	X	X	X	X	X	X	X	X	X
Niter Cake	A	A	A	X	A	A	A	A	A	X	X	X	X	X	X	X	X
Nitrana (Ammonia Fertilizer)	B	X	A	X	B	X	X	C	X	X	X	X	X	X	X	X	X
Nitric Acid																	
Concentrated	D	C	A	D	D	D	D	A	D	X	D	C	A/125	D	D	A	B
Red Fuming (RFNA)	X	D	A	D	D	D	D	B	D	X	D	C	D	D	D	A	B/70
5% To 10% Solution	A	A	A	B	D	C	B	A	A	X	A/120	C	A/120	D	D	A	A
20% Solution	B	B	A	D	D	C	B	A	A	X	B/70	C	A	D	D	A	B
50% Solution (Boiling)	C	C	A	D	D	C	D	A	D	X	B/70	C	A/125	D	D	A	A
65% Solution (Boiling)	D	C	A	D	D	C	D	A	D	X	D	D	A	D	D	A	D
Nitrobenzene	D	B	A	D	D	D	C	A	D	X	B/70	B	A/70	C	C	B	B
Nitroethane	D	A	A	X	C	D	B	D	A	X	C	B	X	A	A	A	A
Nitrogen	A	A	A	B	A	A	A	A	X	X	A	A	A	A	A	A	A
Nitrogen Textroside	D	D	A	B	D	D	D	D	A	X	D	X	C	D	D	A	A

# COMPATIBILITY GUIDE

A = Excellent, B = Good, C = Fair to Poor, D = Not recommended

X or Brackets around a rating letter, no data is available, but the ratings are made on the basis of exposure test in similar chemical groups.

\*All degrees are in Fahrenheit



MATERIAL	NITRILE	SANTOPRENE®	PTFE	HYTREL®	NEOPRENE®	URETHANE	EPR/EPDM	VITON®	UHMW-PE	LEATHER	POLYPROPYLENE	ACETAL	PVDF	ALUMINUM	CAST IRON	STAINLESS	HASTELLOY®
Nitroglycerine	X	A	A	D	A	A	A	A	X	X	X	X	X	X	X	X	X
Nitromethane	D	A	A	D	C	D	B	D	A	X	C	X	A/120	A	A	A	A
Nitropropane	X	B	A	X	D	D	B	D	A	X	X	X	X	A	A	A	A
Nitrous Acid	D	X	A	X	X	X	B	A	X	X	D	X	A	D	D	B	A
Nitrous Oxide	A	X	A	X	B	B	A	A	X	X	A	X	D	B	B	D	B
Octachloro Toluene	D	X	A	X	D	D	D	A	X	X	D	X	X	D	X	X	X
Octadecane	X	B	A	X	B	A	D	A	X	X	X	X	X	X	X	X	X
N-Octane	D	B	A	X	D	D	D	A	X	X	D	X	A	X	X	X	X
Octyl Acetate	D	X	A	X	X	X	X	D	X	X	X	X	X	A	X	A	X
Octyl Alcohol	B	X	A	X	B	D	B	B	X	X	X	X	X	X	X	X	X
“Oils, Crude(Asphalt Base)”	B	D	A	B	C	A	D	A	B	X	B	A	A	A	B	A	A
Oleic Acid (Red Oil)	D	B	A	A	C	B/70	C	A	A	A	A	A	A	A	B	A	A
Olein (Triolein)	X	D	A	X	C	X	X	X	X	X	X	X	X	X	X	X	X
Oleum (Fuming Sulfuric Acid)	D	D	A	D	D	D	D	B	D	X	D	D	D	D	D	A	D
Oleum Spirits	D	D	A	B	D	C	D	A	A	X	D	X	D	D	D	B	X
Olive Oil	D	B	A	X	B	A	B	A	A	X	A	A	B	A	A	B	A
Oronite 8200	X	X	A	B	A	A	D	A	X	X	X	X	X	X	X	X	X
Oronite 9515	X	X	A	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Orthochloro Ethyl Benzene	X	X	A	X	D	D	D	A	X	X	X	X	X	X	X	X	X
Ortho-Dichlorobenzene	X	D	A	D	D	D	D	A	X	X	X	X	X	X	X	X	X
OS 45 Type 111 (OS45)	X	X	A	C	A	D	D	B	X	X	X	X	X	X	X	X	X
OS 45 Type IV (OS45-1)	X	X	A	X	A	D	D	B	X	X	X	X	X	X	X	X	X
OS 70	X	X	A	X	A	D	D	A	X	X	X	X	X	X	X	X	X
Oxalic Acid - 5% (Hot and Cold)	C	A	A	D	B	A	A	A	A	X	A	D	A/120	B	D	B	B
Ozone	X	A	A	C	C	A	A	A	B	X	D	D	A	B	X	X	X
“Paint Thinner, Duco”	D	C	A	X	D	D	D	B	X	A	D	A	X	A	A	A	X
Palmitic Acid	A	B	A	A	B	A	B	A	X	A	A	A	A	C	C	A	B
Palm Oil	X	B	A	X	D	A	D	A	A	X	X	A	A	A	A	A	X
Para-Dichlorobenzene	X	X	A	X	D	D	D	A	X	X	X	X	X	X	X	X	X
Paraffin	A	A	A	X	B	A	D	A	A	A	A	A	A	A	X	A	B
Paraformaldehyde	X	X	A	X	B	X	A	C	X	X	X	X	X	A	A	A	A
Paraldehyde	X	X	A	X	D	X	A	D	X	X	X	X	X	A	A	A	A
Peanut Oil	A	B	A	X	A	B/70	C/70	A	A	X	A	X	A	X	A	A	A
Pentachloroethane (Pentalin)	D	X	A	X	D	X	X	A	X	X	D	A	A	D	A	A	A
Pentachlorophenol (PCP)	X	X	A	X	D	D	D	A	X	X	X	X	X	A	A	A	A
Pentane	X	X	A	X	B	D	D	A	C	X	X	A	A	A	B	B	B
Peppermint Oil	X	C	X	X	D	X	X	A	C	X	X	X	X	X	X	A	X
Perchloric Acid	D	D	A	D	B	D	B	A	C	X	X	C	A/120	D	D	B	X
Perchloroethylene (Tetrachloroethylene)	D	D	A	D	D	D	D	B	B	X	D	A	A	D	B	A	B
Permachlor (Degreasing Fluid)	X	X	A	X	X	X	D	C/70	X	X	X	X	X	X	X	X	X
Petrolatum	A	X	A	X	B	D	D	A	X	X	A	A	A	B	X	A	A
Petroleum Ether	A	X	A	X	D	B	D	A	A	X	A	A	B	B	B	A	D
Petroleum Oils (Refined)	B	C	A	A	B	B	D	A	A	X	B	A	A	X	X	X	X
Petroleum Oils (Sour)	C	C	A	B	B	B	D	A	A	X	B	A	A	B	B	A	A

# COMPATIBILITY GUIDE

A = Excellent, B = Good, C = Fair to Poor, D = Not recommended

X or Brackets around a rating letter, no data is available, but the ratings are made on the basis of exposure test in similar chemical groups.

\*All degrees are in Fahrenheit



MATERIAL	NITRILE	SANTOPRENE®	PTFE	HYTREL®	NEOPRENE®	URETHANE	EPR/EPDM	VITON®	UHMW-PE	LEATHER	POLYPROPYLENE	ACETAL	PVDF	ALUMINUM	CAST IRON	STAINLESS	HASTELLOY®
"Petroleum Oil, Crude"	C	C	A	A	B	A	D	A	A	X	B	A	A	X	X	X	X
Phenol	D	A	A	D	D	D	X	A	C	X	C	A	A/70	B	D	A	A
Phenol Sulfonic Acid	X	X	Q	X	X	X	X	D	X	X	X	X	AB/120	B	B	B	A
Phenyl Acetate	X	X	A	X	D	D	B/70	D	X	X	X	X	X	X	X	X	X
Phenylbenzene	X	C	A	X	D	D	D	A	X	X	X	X	X	X	X	X	X
Phenyl Hydrazine	X	B	A	X	D	X	D	A	X	X	X	X	D	A	D	X	X
Phorone(Disopropylidene Acetone)X	B	A	X	D	D	D	B	D	A	X	X	X	X	X	X	X	X
Phosphate Esters	X	X	A	X	D	D	A	D	X	X	X	X	X	X	X	X	X
Phosphoric Acid 20% 40-100% Solution	X	A	A	X	A	C	A	A	A	X	A	D	A	D	D	A	A
Phosphorous Oxychloride	X	X	A	X	D	X	X	X	X	X	X	X	X	B	B	B	B
Phosphorous Trichloride Acid	D	B	A	X	D	X	A	A	A	X	D	D	A	D	B	A	X
Photographic Developer	B	A	A	D	A	B	B	A	A	X	A	A	A	C	D	A	A
Phthalic Acid	D	X	A	X	C	X	A	A	A	X	A	X	A	B	A	B	B
Phthalic Anhydride	X	X	A	X	A	X	A	A	X	X	X	X	X	X	X	X	X
Pickling Solution	D	A	A	D	D	C	C/70	B/70	A	X	X	D	X	X	X	X	A
Picric Acid	B	B	A	D	C	C	C	A	A	A	B/70	D	A/70	C	D	D	D
Pinene	B	C	A	D	D	D	D	A	A	X	X	X	X	X	X	X	X
Pine Oil	B	C	A	D	D	D	D	A	C	A	X	X	X	A	B	A	X
Piperidine	X	B	A	D	D	D	D	D	B	X	X	X	X	X	X	X	X
Pitch	A	X	A	D	D	D	D	A	X	X	X	X	X	X	X	X	X
Plating Solutions																	
Antimony	B	A	A	X	A	X	X	A	A	X	A	A	A	D	A	A	A
Arsenic	B	A	A	X	A	X	X	A	A	X	A	A	X	C	A	A	A
Brass	B	A	A	X	A	X	A	A	A	X	A	A	A	C	A	A	A
Bronze	B	A	A	X	A	X	A	A	A	X	A	B	X	C	A	A	A
Cadmium	B	A	A	X	A	X	A	A	A	X	A	C	A	C	A/70	A/140	A/90
Chrome	D	A	A	X	D	X	A	A	A	X	A	D	A	C	C	A	B
Copper	B	A	A	X	A	D	A	X	A	X	A	X	A	C	A/70	A/150	A/120
Gold	B	A	A	X	A	X	A	A	A	X	A	X	A	C	X	A/150	A/70
Indium	B	A	A	X	A	X	X	A	A	X	A	X	X	C	X	A	A
Iron	B	A	A	X	A	X	X	A	A	X	A	X	A	C	X	A	A
Lead	C	A	A	X	A	X	A	A	C	X	A	A	A	C	X	X	X
Nickel	B	A	A	X	A	X	A	A	A	X	A	X	A	C	X	A/70	A/140
Silver	B	A	A	X	A	X	A	A	A	X	A	X	A	C	X	A	A
Tin	B	A	A	X	A	X	A	A	A	X	A	X	A	C	X	A	A
Zinc	B	A	A	X	A	X	A	A	A	X	A	X	A	C	X	A	A
Polyvinyl Acetate Emulsion	B	A	A	X	B	X	A	D	X	X	B/70	A	A	X	B	X	X
Potassium Acetate	B	A	A	X	B	D	A	D	A	X	A	A	A	D	A	B	B
Potassium Bicarbonate	A	A	A	X	A	D	A	A	A	A	A	A	A	C	A	B	B
Potassium Bisulfite	A	X	A	X	A	A	A	A	X	X	A	X	X	X	X	X	X
Potassium Bromide	A	A	A	X	A	D	A	A	A	A	A	A	A	C	D	A	A
Potassium Carbonate (Potash)	A	A	A	D	A	D	A	A	A	X	A	A	A	C	B	A	B
Potassium Chlorate	A	A	A	X	A	A	A	A	A	A	A	A	A	B	C	A	B

# COMPATIBILITY GUIDE

A = Excellent, B = Good, C = Fair to Poor, D = Not recommended

X or Brackets around a rating letter, no data is available, but the ratings are made on the basis of exposure test in similar chemical groups.

\*All degrees are in Fahrenheit



MATERIAL	NITRILE	SANTOPRENE®	PTFE	HYTREL®	NEOPRENE®	URETHANE	EPR/EPDM	VITON®	UHMW-PE	LEATHER	POLYPROPYLENE	ACETAL	PVDF	ALUMINUM	CAST IRON	STAINLESS	HASTELLOY®
Potassium Chloride	A	A	A	D	A	A	A	A	A	A	A	A	A	B	B	C	B
Potassium Chromate	A	A	A	X	A	B	A	A	A	A	A	D	A	A	A	B	A
Potassium Cupro Cyanide	X	A	A	X	A	X	B	A	X	X	A	C	A	X	X	X	X
Potassium Cyanide	A	A	A	B	A	A	A	A	A	A	A	C	A	D	B	A	B
Potassium Dichromate	A	A	A	B	A	B	A	A	A	X	A	D	A	A	B	A	B
Potassium Ferricyanide	X	X	A	X	A	X	A	A	A	X	A	B	A	B	C	B	B
Pot. Hydroxide (Caustic Potash)(Lye)	A	A	A	A	B	B	A	B	A	X	A	A	A/150	D	C	A	B
Potassium Hypochlorite	B/70	X	B	X	B	B	A	D	X	X	D	D	A	D	D	D	B
Potassium Iodide	B	X	A	X	A	X	A	A	B	X	A	X	A	B	X	B	B
Potassium Nitrate	A	A	A	X	A	A	A	A	A	A	A	B	A	A	B	B	B
Potassium Permanganate	D	A	A	D	A	B	A	A	A	X	B	C	A	B	B	B	A
Potassium Phosphate	X	X	A	X	A	C	A	A	X	X	X	X	X	D	D	B	B
Potassium Salts	A	X	A	X	A	A	A	A	X	X	X	X	X	X	X	X	X
Potassium Sulfate	A	A	A	B	A	A	A	A	A	X	A	B	A	B	B	A	A
Potassium Sulfide	A	X	A	X	A	A	A	A	A	X	A	X	A	D	B	B	B
Potassium Sulfite	A	X	A	X	A	A	A	A	A	X	A	X	A	A	D	B	X
Potassium Triphosphate	A	X	D (A)	X	A	B	X	A	A	X	X	X	X	X	X	X	X
PRL-High Temp. Hydr. Oil	B/70	X	A	X	B	B	D	A	A	X	X	X	X	X	X	X	X
Producer Gas	X	X	A	X	B	A	D	A	D	X	X	A	X	X	X	X	X
Propane (LPG)	B	C	A	B	B	B	D	A	C	X	D	A	A	A	B	A	A
Propane (Liquified)	B	X	A	B	B	B	D	A	C	X	B/70	A	B/20	A	A	A	A
Propane Propionitrile	X	X	A	X	B	D	D	A	A	X	X	X	X	X	X	X	X
Propionaldehyde (Propanol)	X	X	A	X	D	D	A	D	X	X	X	X	X	A	A	A	A
Propionic Acid	X	A	A	X	D	D	A	D	X	X	X	X	X	A	A	A	A
Propyl Acetate	D	B	A	X	D	D	B	D	X	X	C	A	A/70	A	X	A	A
Propyl Alcohol	B	A	A	X	A	D	A	A	A	X	A	A	A	A	A	A	A
Propylene	X	B	A	X	D	D	D	A	A	X	A	A	A	A	A	A	A
Propylene Dichloride	X	X	A	X	D	D	D	A	D	X	X	X	X	D	A	A	B
Propylene Glycol	A	A	A	X	C	B	A	A	B	X	A	D	A	A	B	A	B
Propylene Oxide	D	A	A	X	D	D	B	D	A	X	A/70	A	D	B	B	A	X
Propyl Nitrate	X	B	A	X	D	D	B	D	X	X	C	A	D	B	B	A	X
Pryanol, Transformer Oil	X	X	A	X	D	B	D	A	C	X	X	X	X	X	X	X	X
Pydraul	X	X	X	X	X	X	X	X	X	X	X	X	X	X	A	A	A
Pyridine	X	A	A	C	D	D	B	D	D	X	C	B	D	B	A	B	A
Pyrogallic Acid	X	X	A	X	A	D	B	A	C	X	X	D	A	X	D	A	B
Pyroligneous Acid	D	X	A	X	D	D	B	D	D	X	A	D	A	B	D	A	X
Pyrolube	X	A	A	X	D	D	B	A	X	X	X	X	X	X	X	X	X
Pyrrrole	X	C	A	X	D	X	D	D	X	X	X	X	X	X	X	X	X
Quarternary Ammonium Salts	X	X	A/70	X	A	X	X	A	X	X	X	X	X	X	X	X	X
Quench Oil	X	X	A/70	X	D	A	D	A	X	X	X	X	X	A	X	A	A
Quinine Bisulphate (Dry)	D	X	A	X	A	A	A	A	A	X	D	D	D	D	D	B	A
Quinine Sulphate (Dry)	D	X	A	X	A	A	A	A	A	X	D	D	D	D	D	A	A
Radiation	X	X	A	X	C	B	C/70	D	X	X	X	D	X	X	X	X	X
Rape Seed Oil	X	B	A	X	B	B/70	A	A	D	X	X	X	X	X	A	A	A

# COMPATIBILITY GUIDE

A = Excellent, B = Good, C = Fair to Poor, D = Not recommended

X or Brackets around a rating letter, no data is available, but the ratings are made on the basis of exposure test in similar chemical groups.

\*All degrees are in Fahrenheit



MATERIAL	NITRILE	SANTOPRENE®	PTFE	HYTREL®	NEOPRENE®	URETHANE	EPR/EPDM	VITON®	UHMW-PE	LEATHER	POLYPROPYLENE	ACETAL	PVDF	ALUMINUM	CAST IRON	STAINLESS	HASTELLOY®
Red Line 100 Oil	X	X	X	X	B	A	D	A	X	X	X	X	X	X	X	X	X
RJ-1 (Mil-F-25558)	X	X	X	X	B	B	D	A	A	X	X	X	X	X	X	X	X
RP-1 (Mil-R-25576)	X	X	X	X	C	C	D	A	A	X	X	X	X	X	X	X	X
Rose Oil	X	A	X	X	C	A	X	A	X	X	X	X	X	X	X	A	X
Rosins	A	A	A	X	A	D	D	A	D	X	A	B	X	A	D	A	A
Rosin Paper Mill	X	A	A	X	A	D	A	A	D	X	A	B	X	A	D	A	A
Rotenone	X	X	A	X	A	X	A	A	X	X	X	X	X	X	X	X	X
Rum	A	A	A	X	A	D	A	A	X	X	A	A	X	X	X	A	A
Rust Inhibitors	A	B	X	X	C	A	X	A	X	X	A	A	X	X	C	A	X
Sal Ammoniac	X	A	A	A	A	A	A	A	A	X	A	D	A	D	D	B	A
Sal Soda	A	B	A	X	A	X	A	A	X	X	X	X	X	D	A	A	A
Salad Dressing	D	A	X	D	D	D	D	D	X	X	A	A	X	B	D	A	X
Salicylic Acid	A	A	A	X	D	X	A	A	A	X	A	X	A	A	D	B	A
Santo Safe 300	X	X	A	B	D	X	C/70	A	A	X	X	X	X	X	X	X	X
Salt Water	A	A	A	X	A	D	A	A	A	A	A	A	A	D	D	C	A
Sea Water	A	A	A	A	A	A	A	A	A	A	A	A	A	D	D	C	A
Sesame Seed oil	A	B	X	X	C	X	X	A	X	X	X	X	X	X	A	A	X
Sewage	A	A	A	A	A	D	A	A	A	X	A	A	A	B	B	A	A
Shellac	A	A	A	D	D	D	A	A	D	X	A	A	X	A	A	A	A
Silicate Esters	A	B	A	C	A	B	D	A	D	X	X	X	X	X	X	X	X
Silicone Greases	A	B	A	A	A	A	A	A	A	X	X	A	X	X	X	X	X
Silicone Oils	A	C	A	B	A	A	A	A	A	X	A	A	A	B	A	A	A
Silicon Tetrachloride Wet	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Silver Bromide	X	X	A/70	X	X	X	X	X	X	X	X	A	X	D	D	B	A
Silver Chloride	D	X	A/70	X	X	X	X	X	X	X	A	X	X	X	X	X	X
Silver Cyanide	A	X	A	X	A	D	A	A	A	X	A	X	A	D	A	A	A
Silver Nitrate	C	A	A	D	A	A	A	A	A	X	A	A	A	D	D	A	A
"Spelly, Solvent B,C,E"	X	X	A	X	D	X	D	A	X	X	X	X	X	X	X	X	X
Skydrol 500	D	B	A	A	D	D	A	D	X	X	X	A	X	X	X	A	A
Skydrol 7000	X	B	A	D	D	D	A	B/70	X	X	X	A	X	X	X	A	A
Soap Solutions	A	A	A	A	A	A	A	A	A	X	A	A	A	C	D	A	A
Sodium Acid Sulfate	A	A	A	X	A	A	A	A	A	X	A	X	X	X	B	X	X
Sodium Aluminate	A	A	A	X	A	X	A	A	X	X	A	A	A	C	A	A	A
Sodium Aluminium Sulfate	A	A	A	X	A	A	A	A	X	X	X	X	X	X	X	X	B
Sodium Bicarbonate	A	A	A	B	A	A	A	A	A	X	A	A	A	A	C	A	B
Sodium Bichromate	B	A	A	X	A	A	A	A	A	X	A	D	A	C	C	B	C
Sodium Bisulfate	A	A	A	AC	A	A	A	A	A	X	A	A	A	D	D	A	B
Sodium Bisulfite	A	A	A	B	A	A	A	A	A	X	A	A	A	A	D	A	A
Sodium Borate (Borax)	A	A	A	B	A	A	A	A	A	X	A/140	A	A	C	B	B	A
Sodium Bromide	X	A	A	X	A	X	A	A	A	X	A	X	A	C	C	B	B
Sodium Carbonate	A	A	A	B	A	A	A	A	A	X	A	A	A	C	B	A	A
Sodium Chlorate	A	A	A	X	A	A	A	A	A	X	A	A	A	B	B	A	A
Sodium Chloride	A	A	A	A	A	A	A	A	A	X	A	A	A	C	B	C	A
Sodium Chromate	A	A	A	X	A	X	X	A	X	X	A	D	A	A	A	A	A

# COMPATIBILITY GUIDE

A = Excellent, B = Good, C = Fair to Poor, D = Not recommended

X or Brackets around a rating letter, no data is available, but the ratings are made on the basis of exposure test in similar chemical groups.

\*All degrees are in Fahrenheit



MATERIAL	NITRILE	SANTOPRENE®	PTFE	HYTREL®	NEOPRENE®	URETHANE	EPR/EPDM	VITON®	UHMW-PE	LEATHER	POLYPROPYLENE	ACETAL	PVDF	ALUMINUM	CAST IRON	STAINLESS	HASTELLOY®
Sodium Citrate	D	A	X	X	X	X	X	X	A	X	X	X	X	X	X	B	B
Sodium Cyanide	A	A	A	B	A	A	A	A	A	X	A	B	A	D	B	A	A
Sodium Dichromate	A	A	A	B	B	B	A	B	A	X	A	X	A	X	X	X	X
Sodium Ferricyanide	A	A	A	X	A	X	A	A	A	X	A	X	A	A	D	B	B
Sodium Fluoride	A	A	A	X	A	B	A	A	A	X	A	X	A	B	X	B	B
Sodium Hydroxide										X							
20% (Cold)	B	A	A	A	B	B	A	A	A	X	A	A	A	D	B	A	B
50% Solution (Cold)	D	A	A	B	C	B	A	A	A	X	A	A	C	D	C	B	A
80% Solution (Cold)	D	X	A	D	C	B	A	A	A	X	A	A	C	D	C	D	B
Sodium Hydrosulfate	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Sodium Hypochlorite 0-20%	D	B	A	C	B	D	B	C	A	X	B	D	A	D	D	C	A
Sodium Metasilicate	A	A	A	X	A	B/70	A	A	X	X	A	B	A	B	X	A	A
Sodium Nitrate	C	A	A	B	B	B/70	A	A	A	X	A	A	A	A	A	A	A
Sodium Perborate	B	A	A	B	B	B/70	A	A	A	X	A	B	A	D	B	A	B
Sodium Peroxide (Sodium Dioxide)	B	B	A	B	B	D	A	A	A	X	B	F	A	B	A	B	B
Sodium Phosphate	A	A	A	C	A	A	A	A	A	X	A	A	A	D	B	B	A
Sodium Phosphate (Mono)	A	A	A	B	C	A	A	A	X	X	A	A	A	D	D	A	X
Sodium Phosphate (Dibasic)	B	A	A	B	B	A	A	A	X	X	A	A	A	D	D	A	X
Sodium Phosphate (Tribasic)	B	A	A	B	C	A	A	A	A	X	A	A	A	D	D	A	A
Sodium Silicate (Water Glass)	A	A	A	B	A	B	A	A	A	X	A	C	A	C	B	A	B
Sodium Sulfate (Salt Cake)	A	A	A	B	A	A	A	A	A	X	A	B	A	B	A	A	B
Sodium Sulfide	A	A	A	B	A	A	A	A	A	X	A	B	A	D	A	A	B
Sodium Sulfide - Saturated	A	A	A	B	A	A	B	B	A	X	A	A	A	D	B	B	A
Sodium Sulfite	A	A	A	B	A	A	A	A	A	X	A	A	A	A	D	A	B
Sodium Tetraborate	B	A	A	B	A	B	A	A	A	X	A	A	A	A	B	A	B
Sodium Tetraphosphate	X	A	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Sodium Thiosulfate (Antichlor)	A	A	A	X	X	X	X	X	X	X	A	B	A	A	C	A	B
Sodium Triphosphate	X	X	A	B	A	A	A	A	X	X	A	C	A	B	C	A	A
Sorghum	A	A	X	X	A	X	X	A	X	X	X	A	X	X	A	A	A
Soybean Oil	A	C	A	B	A	B/70	D	A	A	X	B	B	X	A	A	A	A
Soy Sauce	A	A	X	X	A	B	X	A	X	X	X	A	X	A	D	A	X
Sperm Oil (Whale Oil)	X	B	X	X	D	X	D	A	X	X	X	X	X	X	A	A	A
Spry	X	X	X	X	B	A	B/70	A	A	X	X	X	X	X	X	X	X
SR-6 Fuel	X	X	X	X	D	B/70	D	A	A	X	X	X	X	X	X	X	X
SR-10 Fuel	X	X	X	X	D	B/70	D	A	A	X	X	X	X	X	X	X	X
Stannic Chloride	A	A	A	B	C	B	A	A	A	X	A	B	A	D	D	D	B
Stannic Fluorborate	X	X	X	X	A	X	X	A	X	X	X	C	X	D	D	X	X
Stannous Chloride	A	B	A	B	A	C	B	A	X	X	A	X	A	D	B	A	A
Starch	A	A	A	B	A	A	A	A	A	A	A	B	X	A	C	A	A
Stearic Acid	B	A	A	B	B	A	B	A	A	X	B/72	A	A	B	X	A	A
Stoddard Solvent	B	D	A	C	D	A	D	A	X	A	A/70	A	A	A	A	A	A
Styrene (Vinyl Benzene)	D	C	A	D	D	D	D	B	A	X	D	A	A	A	B	A	D
Sucrose Solutions (Sugar)	A	A	A	B	A	A	A	A	A	X	X	A	X	A	B	A	A
Sugar Liquids	A	A	A	B	A	D	A	A	A	A	A	A	A	A	A	A	A

# COMPATIBILITY GUIDE

A = Excellent, B = Good, C = Fair to Poor, D = Not recommended

X or Brackets around a rating letter, no data is available, but the ratings are made on the basis of exposure test in similar chemical groups.

\*All degrees are in Fahrenheit



MATERIAL	NITRILE	SANTOPRENE®	PTFE	HYTREL®	NEOPRENE®	URETHANE	EPR/EPDM	VITON®	UHMW-PE	LEATHER	POLYPROPYLENE	ACETAL	PVDF	ALUMINUM	CAST IRON	STAINLESS	HASTELLOY®
Sulfate Black Liquor	B	A	A	B	A	A	A	A	A	X	A	D	A	B	C	A	A
Sulfate Green Liquor	B	A	A	B	A	A	A	A	A	X	A	D	A	B	C	A	A
Sulfite Liquor	B	A	A	X	A	C	B/70	A	X	X	B	X	X	D	D	B	A
Sulfur	B	A	A	X	B	B	A	A	A	X	A	A	A	A	A	A	B
Sulfur Chloride	D	D	A	C/70	A	C/70	D	A	C	X	C	D	A/70	B	D	B	A
Sulfur Dioxide	D	A	A	D	A	C	A	A	A	X	A	D	A	D	D	A	B
Sulfur Hexafluoride	C	B	A	B	B	B	A	C	A	X	X	D	X	D	D	X	D
Sulfur Trioxide	D	D	A	D	A	C	C	A	X	X	D	X	C	D	D	B	B
Sulfuric Acid -Dilute	D	A	A	A	C	C	A	A	X	X	A	D	A	D	D	B	A
Sulfuric Acid - (To 10%)	D	A	A	A	D	D	A	A	D	X	A/120	D	A	D	D	C	A
Sulfuric Acid - (To 75%)	D	A	A	B	D	D	C	A	D	X	A/72	D	A/150	D	D	C	B
Concentrated	D	B	A	C	D	D	C	A	D	X	C/72	D	A/120	D	D	B	A
(Fuming) Oleum	D	A	A	B	D	D	B	A	D	X	D	D	D	C	D	B	B
Sulfurous Acid	D	X	A	D	D	D	D	D	A	X	A	D	A	D	D	B	B
SunSAFE (Fire Resist. Hydr. Fluid)	B	D	A	A	B	D	D	A	X	X	X	X	X	X	X	X	X
Syrup	A	A	X	X	B	X	A	A	X	X	A	A	X	A	X	A	X
Tall Oil	A	D	A	X	D	A	D	A	A	X	A	X	A	D	C	B	A
Tallow	B	B	A	X	D	A	A	A	A	X	B/70	A	X	A	X	A	X
Tannic Acid	A	A	A	A	A	A	A	A	A	X	A	D	A	D	C	A	B
Tanning Oils	X	X	A	X	D	X	X	A	A	X	A	D	A	A	X	A	A
Tar and Tar Oil	X	X	A	C	C	D	X	X	C	X	A	A	A	A	C	B	X
"Tar, Bituminous"	B	B	A	B	C	B/70	D	A	X	X	A	A	X	A	X	A	A
Tartaric Acid	B	A	A	(B)	A	A	C	A	A	X	A	D	A	A	D	A	A
Terpene Monocyclic	X	X	A	X	A	X	D	A	X	X	X	X	X	A	D	X	X
Terpineol	D	B	A	X	D	B/70	C/70	A	X	X	D	X	B/120	A	A	A	A
Tertiary Butyl Alcohol	D	B	A	X	B	D	B/70	A	X	X	B	A	X	X	X	X	X
P-Tertiary Butyl Catechol	X	B	A	X	B	X	B/70	A	X	X	X	A	X	C	B	B	X
Tertiary Butyl Mercaptan	X	B	A	X	D	D	D	A	X	X	X	B	X	X	X	X	X
Tetra Bromoethane	D	D	A	X	D	X	D	A	X	X	D	X	X	D	X	X	X
Tetrabutyl Titanate	X	B	A	X	B	X	A	A	X	X	X	X	X	X	X	X	X
Tetrachlorodifluoroethane	D	D	A	X	D	X	D	X	X	X	X	X	X	X	X	X	X
Tetrachloroethylene	D	D	A	X	D	D	D	A	B	X	D	A	A/170	D	A	A	X
Tetraethyl Lead	B	C	A	B	C	B	D	A	C	X	A	X	A	B	A	A	X
Tetraethylene Glycol	X	X	A	X	X	X	X	A	X	X	X	X	X	X	X	X	X
Tetrahydrofuran	D	B	A	B	D	D	D	D	B	X	C	A	B/70	X	X	A	A
Tetralin	D	C	A	X	D	D	D	A	X	X	D	X	X	A	A	A	A
Thiokol TP-90B	X	X	X	X	B	X	A	A	X	X	X	X	X	X	X	X	X
TP-95	X	X	X	X	B	X	A	A	X	X	X	X	X	X	X	X	X
Thionyl Chloride	X	X	X	X	X	X	X	X	D	X	B	B	D	C	D	D	A
Thiophene	D	D	A	X	D	X	D	C	X	X	X	X	X	X	X	X	X
Tin Tetrachloride	A	X	A	X	D	B/70	X	X	X	X	A	X	A	D	D	D	A
Titanium Tetrachloride	C	D	A	X	D	D	D	A	C	X	D	X	B	D	A	B	B
Toluene (Toluol)	C	D	A	C	D	D	D	B	D	X	D	A	A	A	A	A	A
Toluene Di-Isocyanate (Hylene)	X	B	A	B	D	X	A	C	X	X	X	C	X	X	X	X	X

# COMPATIBILITY GUIDE

A = Excellent, B = Good, C = Fair to Poor, D = Not recommended

X or Brackets around a rating letter, no data is available, but the ratings are made on the basis of exposure test in similar chemical groups.

\*All degrees are in Fahrenheit



MATERIAL	NITRILE	SANTOPRENE®	PTFE	HYTREL®	NEOPRENE®	URETHANE	EPR/EPDM	VITON®	UHMW-PE	LEATHER	POLYPROPYLENE	ACETAL	PVDF	ALUMINUM	CAST IRON	STAINLESS	HASTELLOY®
Toluidine	X	X	A	X	X	X	X	B/70	X	X	X	X	X	A	A	A	A
Tomato Pulp & Juice	A	A	A	X	A	A	A	A	A	X	A	A	A	B	X	A	A
Transformer Oils	B	D	A	X	B	A	D	A	A	X	B/70	A	A	A	A	A	A
“Transmission Fluid, Type A”	X	C	A	B	B	A	D	A	X	X	X	A	X	A	A	A	A
Triacetin	X	A	A	X	B	D	A	D	X	X	X	X	X	B	X	X	X
Triaryl Phosphate	D	X	A	X	D	D	A	A	A	X	B	X	A	X	X	X	X
Tributoxyl Ethyl Phosphate	X	B	A	X	D	D	A	A	A	X	X	X	X	X	X	X	X
Tributyl Mercaptan	X	B	A	X	D	X	D	A	A	X	X	X	X	X	X	X	X
Tributyl Phosphate	D	B	A	C	D	D	B	D	X	X	B	X	A	A	A	A	X
Trichloroacetic Acid	D	B	A	D	D	D	B/70	D	C	X	B/140	D	A70	D	D	D	B
Trichlorobenzenes	X	X	A	X	D	D	X	A	X	X	X	X	X	D	A	A	B
Trichloroethane	D	D	A	D	D	D	D	A	D	X	D	A	B/150	D	A	A	A
Trichloroethylene (Triad)	D	D	A	D	D	D	D	C	X	X	C/70	B	A	B	B	B	B
Trichloromonofluoroethane (Freon 17)D	X	X	X	X	D	X	X	X	X	X	X	X	X	A	X	A	A
Trichloropropane	D	D	A	X	A	A	X	A	X	X	D	A	X	D	A	A	A
Trichlorotrifluoroethane (Freon 113)	A	D	A	A	A	B	D	A	X	X	A	X	A	A	A	A	A
Tricresyl Phosphate	D	B	A	C	C	D	A	A	A	X	B	C	D	D	A	A	A
Tridecyl Alcohol (Tridecanol)	X	X	A/170	X	X	B	X	B/70	X	X	X	X	X	X	X	X	X
Triethanol Amine	D	A	A	C	A	D	A	D	A	X	A/70	A	A	B	A	A	A
Triethyl Aluminium	X	B	A	D	D	X	X	B/70	X	XX	X	X	X	X	X	X	X
Triethyl Amine	D	D	A	X	B	D	A	A	X	XX	C	A	A/120	X	A	A	A
Triethylene Glycol (TEG)	A	X	A	X	X	X	X	A	A	X	A	X	X	X	X	X	X
Triethyl Borane	X	B	A	X	D	X	X	A	X	X	X	X	X	X	X	X	X
Trifluoroethane	X	X	A	X	D	D	D	A	X	X	X	X	X	X	X	X	X
Trimethylene Glycol	X	X	A	X	X	X	A	A	X	X	X	X	X	X	X	X	X
Trinitrotoluene (TNT)	X	A	A	X	B	X	D	B/70	X	X	X	X	X	X	X	X	X
Trioctyl Phosphate	X	B	A	X	D	D	A	B	X	X	X	X	X	X	X	X	X
Triphenyl Phosphite	D	X	A	X	X	X	X	C/70	X	X	X	X	X	X	X	X	X
Trisodium Phosphate	A	A	A	A	A	B	A	A	X	X	A	D	A	D	A	B	A
Tung Oil	D	B	A	(B)	A	B	D	A	A	X	A	X	A	A	B	A	A
Turbine Oil	X	X	A	X	B	A	D	A	X	X	X	X	X	X	X	X	X
Turbine Oil #15 (Mil -L-7808A)	X	X	A	X	D	D	D	A	X	X	X	X	X	X	X	X	X
Turbo Oil #35	X	X	X	X	B	A	D	A	X	X	X	X	X	X	X	X	X
Turpentine	B	D	A	B	D	D	D	A	D	X	B/120	A	A	A	B	A	B
Type 1 Fuel (Mil-S-3136)	X	D	A	A	A	B	D	A	X	X	X	X	X	X	X	X	X
Type 11 Fuel (Mil-S-3136)	X	D	A	X	D	B/70	D	A	X	X	X	X	X	X	X	X	X
Type 111 (Fuel Mil-S-3136)	X	D	A	A	D	B/70	D	A	X	X	X	X	X	X	X	X	X
Univis 40 (Hydr. Fluid)	X	D	A	X	B	A	D	A	X	X	X	X	X	X	X	X	X
Univolt #35 (Mineral Oil)	X	C	A	X	B	A	D	A	X	X	X	X	X	X	X	X	X
Unsymmetrical Dimethyl Hydrazine	X	B	A	X	B	D	A	D	X	X	X	X	A/70	B	A	A	X
Urea (Carbamide)	B	A	A	B	A	B	A	A	A	X	A	A	A	B	X	B	B
Uric Acid	X	X	A	D	X	D	X	X	X	X	D	D	D	D	X	B	B
Urine	A	A	A	X	D	X	A	A	A	X	A	C	A	B	B	A	A
Valeric Acid	X	X	A	X	D	X	A	X	X	X	X	X	X	A	X	X	X

# COMPATIBILITY GUIDE

A = Excellent, B = Good, C = Fair to Poor, D = Not recommended

X or Brackets around a rating letter, no data is available, but the ratings are made on the basis of exposure test in similar chemical groups.

\*All degrees are in Fahrenheit



MATERIAL	NITRILE	SANTOPRENE®	PTFE	HYTREL®	NEOPRENE®	URETHANE	EPR/EPDM	VITON®	UHMW-PE	LEATHER	POLYPROPYLENE	ACETAL	PVDF	ALUMINUM	CAST IRON	STAINLESS	HASTELLOY®
Vanilla Extract	X	A	A	X	A	X	X	X	A	X	X	X	X	X	X	A	X
Varnish	B/70°	D	A	X	D	B	D	A	A	A	A	X	A	A	X	A	A
Vegetable Juices	X	A	D	X	B	B	A	A	X	X	X	A	X	C	X	A	X
Vegetable Oil	A	A	A	X	B	A	A	A	D	A	A	A	A	A	B	A	A
Versilube	X	X	A	X	A	A	A	A	A	X	X	X	X	X	X	X	X
Versilube F-50	X	X	A	X	A	A	A	A	A	X	X	X	X	X	X	X	X
Vinegar	B	A	A	C	B	B	A	A	A	A	A	B	A	D	C	A	A
Vinyl Acetate	D	B	A	X	D	D	B	A	D	X	B/80	X	A	B	A	A	A
Vinyl Chloride (Chloroethylene)	X	X	A	X	D	X	C	A	X	X	D	X	A	D	B	A	A
Walnut Oil	X	X	A	X	B	X	X	A	X	X	X	X	X	X	X	X	X
"Water, Acid Mine"	A	A	A	X	C	C	A	A	A	X	A	A	A	D	D	A	A
"Water, Fresh"	A	A	A	A	A	A	A	B	A	A	A	A	A	A	B	A	A
"Water, Distilled"	A	A	A	X	B	A	A	A	A	A	A	A	A	B	D	A	A
"Water, Salt"	A	A	A	A	A	B	A	A	A	A	A	A	A	D	D	C	X
"Water-Brine, Process, Beverage"	X	A	D	X	A	D	A	A	A	X	X	X	X	X	X	X	X
Waxes	D	X	A	X	A	A	B	A	A	X	D	A	D	D	D	D	A
Wemco C	X	X	A	X	B	A	D	A	X	X	X	A	X	X	X	A	X
Whey	A	A	X	X	X	X	X	A	X	X	X	X	X	B	X	A	X
Whiskey and Wines	A	A	A	B	A	D	A	A	A	X	A	A	A	D	D	A	A
White Liquor (Pulp Mill)	A	A	A	X	A	D	A	A	X	X	X	X	X	X	X	X	X
White Pine Oil	X	A	A	D	D	X	D	A	A	X	X	A	X	X	X	X	X
White Oil	X	C	A	X	B	A	D	A	X	X	X	A	X	X	X	A	A
Wolmar Salt	X	X	A	X	B	A	A	A	X	X	X	X	X	X	X	X	X
Wood Alcohol	X	X	A	X	A	D	A	D	A	X	X	X	X	X	X	X	X
Wood Oil	X	X	A	A	D	C/70	D	A	A	X	X	X	X	A	A	A	X
"Wort, Distillery"	X	X	X	X	B	B/70	A	A	X	X	X	X	X	A	B	A	A
Xylene (Xylol)	C	D	A	B	D	D	D	A	D	X	B	A	A	A	A	A	A
Zeolites	X	A	A	X	C	X	A	A	X	X	X	X	X	X	X	A	A
Zinc Acetate	B	A	A	X	B	D	A	B	A	X	A	X	A	C	X	A	X
Zinc Carbonate	A	A	A	X	A	A	A	A	A	X	X	X	X	B	B	B	B
Zinc Chloride	A	A	A	A	A	A	A	A	A	X	A	D	A	D	D	C	A
Zinc Hydrosulphite	A	A	(A)	X	A	X	A	X	X	X	X	C	A	D	X	A	X
Zinc Salts	A	A	A	X	A	A	A	A	X	X	A	X	A	X	X	X	X
Zinc Sulfate	A	A	A	C	A	A	A	A	A	X	A	C	A	D	D	A	A

Santoprene® is a registered trademark of Advanced Elastomer Systems, L.P.  
 Hytrel® is a registered trademark of E.I. du Pont de Nemours and Company.  
 Neoprene® is a registered trademark of the DuPont Corporation.  
 Viton® is a registered trademark of DuPont Dow Elastomers.  
 Hastelloy® is a registered trademark name of Haynes International, Inc.

- ▶ Throughout the past eight decades, ARO fluid management products have made businesses more competitive, cost-efficient and performance driven.

Contact us today with any of your fluid needs.



[www.AROzone.com](http://www.AROzone.com)



(800) 495-0276



[arohotline@irco.com](mailto:arohotline@irco.com)



Distributed by:

[www.AROzone.com](http://www.AROzone.com)

[arotechsupport@irco.com](mailto:arotechsupport@irco.com)

[youtube.com/aropumps](https://youtube.com/aropumps)

(800) 495-0276



## About Ingersoll Rand

Ingersoll Rand Inc. (NYSE:IR), driven by an entrepreneurial spirit and ownership mindset, is dedicated to helping make life better for our employees, customers and communities. Customers lean on us for our technology-driven excellence in mission-critical flow creation and industrial solutions across 40+ respected brands where our products and services excel in the most complex and harsh conditions. Our employees develop customers for life through their daily commitment to expertise, productivity and efficiency. For more information, visit [www.IRco.com](http://www.IRco.com).

We are committed to using environmentally conscious print practices

©2014 Ingersoll Rand

IRITS-1114-108 EN