

### Fluid Compatibility Table

The recommendations shown in this table are based on data data supplied by polymer manufacturers, and comparison made with similar materials. These are general guidelines only end users must conduct their own functional tests to determine the suitability of any compound for their particular application. To aid in your selection, materials are ranked in order of increasing cost with Nitriles costing the least and Fluoro-elastomers costing the most.

**R = Recommended**  
**M = Marginal**  
**U = Unsatisfactory**  
**X = Insufficient Data**

Fluid	Nitrile	SBR	EPDM	Neoprene	Polyacrylate	Urethane	Silicone	Fluoroelastomer	Fluid	Nitrile	SBR	EPDM	Neoprene	Polyacrylate	Urethane	Silicone	Fluoroelastomer
Acetaldehyde	U	U	R	U	U	U	R	U	Bromine	U	U	U	U	U	U	R	
Acetamide	M	M	R	R	U	U	R	U	Bromobenzene	U	U	U	U	U	U	R	
Acetic Acid	M	M	R	R	U	U	R	U	Bunker Oil	R	R	U	U	U	R	R	
Acetone	U	M	R	M	U	U	M	U	Butane	U	M	U	U	U	U	R	
Acetophenone	U	U	R	U	U	U	U	U	Butter	R	U	M	U	R	R	R	
Acetylene	R	R	R	R	X	X	R	R	Butyl Acetate	R	U	M	U	U	U	R	
Ammonia	R	R	R	R	U	X	R	U	Butyl Alcohol	R	U	R	U	U	U	R	
Ammonium Hydroxide	R	R	R	R	U	U	R	R	Butyl Amine	M	U	U	U	U	U	U	
Amyl Acetate	U	U	M	U	U	U	U	R	Butyl Carbitol	U	U	R	M	M	X	U	
Anderol L-774	M	U	U	U	R	U	U	R	Butyl Cellulosolve	M	U	U	R	M	U	X	
Antifreeze	R	R	R	R	U	U	R	R	Butyraldehyde	U	U	R	U	U	U	R	
Aniline	U	U	R	U	U	U	M	U	Carbitol	U	U	R	U	U	U	U	
Ansul Ether	M	U	M	U	U	R	U	M	Carbitol Acetate	U	U	U	U	U	U	U	
Aroclors	M	U	U	U	U	X	M	U	Carbon Disulfide	R	U	U	U	U	X	U	
Askarel	R	U	U	U	U	U	U	R	Carbon Tetrachloride	U	U	U	U	U	U	R	
ASTM #1	R	U	U	R	R	R	R	R	Carbonic Acid	R	R	R	R	R	R	R	
ASTM #3	R	U	U	U	R	R	R	U	Castor Oil	R	R	R	R	R	R	R	
ASTM Fuel A	R	U	U	R	R	R	R	R	Cellosolve	U	U	U	U	U	U	U	
ASTM Fuel B	R	U	U	U	U	R	R	R	Cnassis Grease	R	U	U	M	U	X	U	
ASTM Fuel C	R	U	U	U	U	R	U	R	Chloracetic Acid	U	U	U	U	U	X	U	
ASTM Fuel D	M	U	U	U	U	U	R	R	Chloracetone	U	U	U	M	X	X	U	
Auto. Transmission Fluid	R	U	U	M	R	R	R	R	Chlordane	R	U	U	M	X	X	U	
Beer	R	R	R	R	U	U	R	R	Chlorine	U	U	R	U	U	U	X	
Benzaldehyde	U	U	R	U	U	U	U	U	Chlorobenzol	U	U	U	U	U	U	R	
Benzene	U	U	U	U	U	U	U	U	Chloroform	U	U	U	U	U	U	U	
Benzine	R	U	U	U	R	R	U	R	Chlorosulfonic Acid	U	U	U	U	U	U	R	
Benzoic Acid	U	U	U	U	U	U	U	R	Chrome Plating Solution	U	U	U	U	U	U	R	
Benzophenone	U	U	R	X	U	U	U	R	Chromic Acid	U	U	X	U	X	X	M	
Benzyl Alcohol	U	U	R	R	U	U	U	R	Citric Acid	R	R	R	R	X	X	R	
Bleach	R	R	R	R	U	U	R	R	Cod Liver Oil	R	U	U	R	U	U	R	
Borax	R	R	R	U	R	R	R	R	Coffee	R	U	U	R	U	U	R	
Boric Acid	R	R	R	R	U	R	R	R	Corn Oil	R	U	U	R	U	U	R	
Brake Fluid (non-petroleum)	U	R	R	R	U	U	R	U	Creosote	R	U	U	R	R	M	U	
									Creosote Oil	R	U	U	M	X	X	M	

Fluid	Nitrile	SBR	EPDM	Neoprene	Polyacrylate	Urethane	Silicone	Fluoroelastomer	Fluid	Nitrile	SBR	EPDM	Neoprene	Polyacrylate	Urethane	Silicone	Fluoroelastomer
Creosylic Acid	U	U	U	U	U	U	R	U	Formic Acid	M	R	R	R	X	X	M	U
Crude Oil	R	U	U	M	R	X	U	R	Freon 12	R	R	R	R	X	R	U	R
Cyclohexane	U	U	U	U	R	X	U	R	Fuel Oil	U	U	U	U	X	X	U	R
Cyclohexanol	R	U	U	R	X	X	U	R	Furan	U	U	X	U	U	X	U	X
Decalin	U	U	U	U	U	U	U	R	Furfural	U	U	U	U	U	X	U	X
Denatured Alcohol	R	R	R	R	U	U	R	R	Furfuryl Alcohol	U	U	R	U	U	U	U	X
Diacetone	U	U	R	U	U	U	U	U	Fyrquel	U	U	U	U	U	U	U	R
Dibutyl Amine	U	U	U	M	U	U	U	U	Gallic Acid	R	R	R	R	U	U	X	R
Dibutyl Phthalate	U	U	R	U	U	X	X	M	Gasoline	R	R	R	U	U	U	R	R
Dichloro Aniline	U	U	U	U	U	U	U	M	Gelatin	R	R	R	R	U	U	U	R
Dichloro Butane	R	R	U	U	U	U	U	R	Glucose	R	R	R	R	X	U	U	R
Diesel Oil	R	U	U	M	U	U	U	R	Glycerine	R	R	R	R	U	U	U	R
Diethylamine	R	R	R	R	U	M	R	U	Heptane	R	U	U	R	R	R	U	R
Diethyl Benzene	M	U	U	U	X	X	X	R	Hexaldehyde	U	U	U	R	X	X	U	U
Diethylene Glycol	R	U	R	R	U	U	R	R	Hexane	R	U	U	R	R	U	U	R
Dimethyl Ether	U	U	M	M	M	R	U	U	Hexanol	R	U	M	R	R	U	U	R
Dimethyl Formamide	U	X	R	X	X	X	R	U	Home Heating Oil	R	U	U	M	U	U	U	R
Dimethyl Phthalate	U	U	R	U	U	X	X		Hydrazine	R	R	R	R	X	X	R	X
Dimethyl Terephthalate	U	U	U	U	U	U	U	R	Hydrochloric Acid	R	M	R	R	M	U	U	R
Diocetyl Phthalate	U	U	R	U	U	U	M	U	Hydrocyanic Acid	R	U	R	R	U	X	M	R
Dioxane	U	U	U	U	U	U	U	U	Hydrogen Peroxide	R	R	R	R	U	X	M	U
Diphenyl	U	U	U	U	U	U	U	R	Hydrogen Sulfide	U	U	R	U	U	X	M	U
Dow Corning 550	R	R	R	R	R	R	R	R	Hydroquinone	M	U	U	U	U	X	X	U
Dow Gard	R	R	R	R	M	M	R	R	Hypoid Gear Lube	R	U	U	M	R	R	M	R
Dowtherm A & E	U	U	U	U	U	U	R	R	Iodine	R	U	U	U	X	X	X	R
Eico 28	R	U	U	M	R	R	R	R	Isocyanate	X	X	X	X	X	X	X	R
Epoxy Resins	X	X	R	R	X	X	X	U	Iso Octane	U	U	U	R	U	R	R	R
Ethane	R	U	U	R	R	M	U	R	Iso Phorone	U	U	U	U	U	U	U	U
Ethanol	R	R	R	R	U	R	R	R	Isopar	R	X	R	U	R	U	U	R
Ethanolamine	R	R	R	R	U	M	R	U	Isopropanol	R	R	R	U	U	U	U	R
Ethyl Acetate	U	U	U	U	U	U	U	U	Isopropyl Acetate	U	U	U	U	U	U	U	U
Ethyl Benzene	U	U	U	U	U	U	U	R	JP-4(MIL-J-5624)	R	U	U	U	R	U	U	R
Ethyl Cellulose	R	R	R	R	U	R	R	U	JP-5(MIL-J-5624)	R	U	U	U	R	R	U	R
Ethyl Chloride	R	R	R	R	M	R	U	U	Kerosine	R	U	U	R	U	U	U	R
Ethyl Ether	M	U	M	U	U	R	U	U	Lactic Acid	R	U	U	R	U	X	X	R
Ethyl Formate	U	U	R	R	X	X	X	R	Lacquers	U	U	U	U	U	U	U	U
Ethyl Hexanol	M	U	R	R	X	X	X	R	Lard	R	U	U	U	U	U	U	R
Ethyl Merlaptan	U	U	X	M	X	X	M	R	Linoleic Acid	R	U	U	M	R	X	X	R
Ethylene Chloride	U	U	R	U	U	U	U	U	Linseed Oil	R	U	M	M	U	X	X	R
Ethylene Oxide	U	U	U	U	U	U	U	U	Lye Solutions	R	U	R	R	U	U	U	R
Formaldehyde	M	M	R	M	U	U	R	U	Malathion	R	U	U	R	X	X	U	R
									Maleic Acid	U	U	U	U	U	X	X	R

## Fluid Compatibility Table

The recommendations shown in this table are based on data data supplied by polymer manufacturers, and comparison made with similar materials. These are general guidelines only end users must conduct their own functional tests to determine the suitability of any compound for their particular application. To aid in your selection, materials are ranked in order of increasing cost with Nitriles costing the least and Fluoro-elastomers costing the most.

**R = Recommended**  
**M = Marginal**  
**U = Unsatisfactory**  
**X = Insufficient Data**

Fluid	Nitrile	SBR	EPDM	Neoprene	Polyacrylate	Urethane	Silicone	Fluoroelastomer	Fluid	Nitrile	SBR	EPDM	Neoprene	Polyacrylate	Urethane	Silicone	Fluoroelastomer
Mercury	R	R	R	R	X	X	X	R	Propyl Acetate	U	U	R	U	U	U	U	U
Meter-Cresol	R	U	U	R	U	U	U	R	Pydraul	U	U	R	U	U	U	U	R
Methane	R	R	R	R	R	M	U	R	Pyranol	U	U	U	U	R	X	U	U
Methanol	R	R	R	R	R	U	U	U	Pyridine	R	U	U	U	U	U	U	U
Methyl Acetate	U	U	R	R	U	U	U	U	Rapeseed Oil	R	U	U	U	U	U	U	U
Methacrylic Acid	U	U	R	R	U	U	U	M	Resurcinol	X	R	R	X	X	X	X	X
Methyl Cellosolve	M	U	R	M	U	U	U	U	SAE10W30	R	R	U	M	R	R	R	R
Methylene Chloride	U	U	U	U	U	U	U	U	Seawater	R	R	U	R	U	U	R	X
Methyl Ethyl Ketone	U	U	R	U	U	U	U	U	Silicone Grease	R	R	R	R	R	R	R	R
Methyl Mercaptan	X	X	R	X	X	X	X	X	Silver Nitrate	R	R	R	R	R	R	R	R
Milk	R	R	R	R	U	U	R	R	Skelly Solvent	R	U	U	U	X	X	X	U
Mineral Oil	R	U	M	R	R	R	R	R	Skydrol	U	U	U	U	U	U	U	R
Mineral Spirits	R	U	U	U	R	R	U	R	Skydrol 500	U	U	R	U	U	U	U	U
Monovinyl Acetylene	R	R	R	R	X	X	R	R	Sodium Hydroxide	R	R	R	U	U	U	U	R
Mustard	X	R	R	X	X	X	R	R	Sovasol	R	U	U	R	R	R	U	R
Naphtha	R	U	U	U	R	R	U	R	Soy Bean Oil	R	U	M	M	R	X	R	R
Naphthalene	U	U	U	U	X	X	U	R	Stearic Acid	R	U	R	R	X	X	R	X
Naphthenic Acid	R	U	U	U	X	X	U	R	Stoddard Solvent	R	U	R	R	R	R	U	R
Natural Gas	R	R	U	R	R	R	R	R	Sucrose	R	R	R	R	U	U	U	R
Neatsfoot Oil	R	U	R	U	R	R	R	R	Sulfuric Acid	R	R	R	R	U	U	U	R
Nitric Acid	U	M	R	U	U	U	U	M	Tall Oil	R	U	U	M	R	U	X	R
Nitrobenzene	U	U	U	U	U	U	U	R	Tannic Acid	R	R	R	R	U	X	R	R
Nitropropane	U	U	U	U	U	U	U	U	Tar	R	U	U	M	U	X	R	R
Octane	R	U	U	U	U	U	U	R	Tartaric Acid	R	R	R	R	X	X	U	R
Octanol	R	R	R	R	U	U	R	R	Tetrachloro Ethane	U	U	U	U	U	U	U	R
Oleic Acid	M	U	U	M	X	X	U	R	Tetralin	U	U	U	U	U	U	U	R
Oleum	R	U	U	M	X	X	U	R	Tidewater Oil	R	U	U	U	R	R	U	R
Oronite 8200	R	U	U	R	X	X	U	R	Toluene	U	U	U	U	U	U	U	R
Oxalic Acid	R	R	R	R	X	X	R	R	Trichloro Ethylene	M	U	U	U	U	U	U	R
Peanut Oil	R	U	M	M	R	X	R	R	Triethanol Amine	M	R	R	R	U	U	X	U
Pentane	R	M	U	U	R	U	U	R	Turbine Oil	R	U	U	U	R	R	U	R
Perchloroethylene	R	U	U	U	U	U	U	R	Turpentine	R	U	U	U	R	U	U	R
Petroleum Ether	U	U	U	U	U	U	U	R	UCDN 50HB280X	R	R	U	R	X	X	R	R
Phenol	U	U	U	U	U	U	U	R	Univis J-43	R	U	U	R	R	R	U	R
Phenylhydrazine	U	M	U	U	U	X	X	R	Varnish	R	U	U	U	U	M	U	R
Phosphoric Acid	R	R	R	R	M	U	R	R	Vinegar	R	R	R	R	U	U	R	R
Pine Oil	R	U	U	U	X	X	U	R	Water	R	R	R	R	U	U	U	R
Potassium Hydroxide	R	R	U	R	U	U	M	U	Wheat Germ Oil	R	U	U	M	R	U	R	R
Propane	R	R	U	R	U	M	U	R	Whiskey & Wine	R	U	U	R	U	U	U	R
Propanol	R	R	R	R	U	U	R	R	Wood Oil	R	U	U	R	X	M	U	R

## Comparison of Properties Chart

This chart matches the general rubber properties required in most O-ring applications with the capabilities of commonly used elastomers. Since no one elastomer is rated "excellent" for all properties, compromises are sometimes necessary when selecting an elastomer for a specific O-ring application. Start with most critical properties to narrow your choices.

Property	Nitrile	SBR	Neoprene	Ethylene Propylene	Fluorocarbon	Fluorosilicone	Polyacrylate	Polyurethane	Silicone
Ozone resistance	P	P	GE	E	E	E	E	E	E
Weather resistance	F	F	E	E	E	E	E	E	E
Heat resistance	G	FG	G	E	E	E	E	F	E
Chemical resistance	FG	FG	FG	E	E	E	P	F	GE
Oil resistance	E	P	FG	P	E	G	E	G	PG
Impermeability	G	F	G	G	G	P	E	G	P
Cold resistance	G	G	FG	GE	FP	GE	P	G	E
Tear resistance	FG	FG	FG	GE	F	P	FG	GE	P
Abrasion resistance	G	G	G	GE	G	P	G	E	P
Set resistance	GE	G	F	GE	GE	GE	F	F	GE
Dynamic properties	GE	G	F	GE	GE	P	F	E	P
Acid resistance	F	F	FG	G	E	FG	P	P	FG
Tensile strength	GE	GE	G	GE	GE	F	F	E	P
Electrical properties	F	G	F	G	F	E	F	FG	E
Water / Steam resistance	FG	FG	F	E	FG	F	P	P	F
Flame resistance	P	P	G	P	E	G	P	P	F

E = Excellent G = Good F = Fair P = Poor