SOTERA™
SYSTEMS

A Tuthill COMPANY

# Chemical Resistance Guide

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## Chemical Resistance Guide

This Chemical Resistance Guide is based on numerous resources and is believed to be accurate and reliable to the best of our knowledge. It is intended to be used as a guide in selecting materials for appropriate chemical compatibility. Ratings of chemical behavior listed in this chart may apply to a limited exposure period and temperature range. These suggestions and recommendations are intended as an additional source of information. We recommend testing the chemicals under specific conditions of your application to determine suitability. Tuthill does not warrant (neither expressed nor implied) that the information in this chart is accurate or complete or that any material is suitable for any purpose.

**CAUTION**: Temperature limits are based on mechanical stress only. Certain chemicals will significantly reduce maximum safe operating temperatures. Consult engineering guides for chemical compatibility and temperature limits.

### RUBBER COMPOUNDS

| Compound | Temperature Limits | Suitable Applications |
|---|---|---|
| Nitrile | -12.2° to 82.2 °C<br>+10 ° to +180 °F | Excellent for applications involving petroleum/oil-based fluids such as leaded gasolines, fuel oils, non-synthetic hydraulic oils, kerosene, turpentines and motor oils. |
| Santoprene | -17.8° to 93.3 °C<br>0 ° to +200 °F | It is the mixture of in-situ cross linking of EPDM rubber and polypropylene. Santoprene possesses the same levels of flexibility and durability that are commonly found with natural rubber compounds. Because of the longer life in both extreme hot and cold environments, the material is often preferred over the use of rubber. |
| EPDM | -51.1° to 137.8 °C<br>-60 ° to +280 °F | Excellent for use in applications requiring extremely cold temperatures. May also be used as a low cost alternative when pumping dilute acids or caustics. |
| Fluoroelastomer | -40° to 176.7 °C<br>-40 ° to +350 °F | Excellent for use in applications requiring extremely hot temperatures. May also be used with aggressive fluids such as aromatic or chlorinated hydrocarbons and highly aggressive acids. |
| Hytrel | -40° to 130 °C<br>-40 ° to +266 °F | Applications requiring flex life coupled with good flexibility at low temperatures. Thin, flexible membranesit resists deterioration from many industrial chemicals, oils, and solvents. |

| Chemicals | Metals | | | Plastics | | | | Elastomers | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Stainless Steel | Cast Iron | Aluminum | Polypropylene | PVDF | Ryton | Acetal (POM) | Fluorocarbon | Nitrile | Hytrel | PTFE | EPDM | Santoprene | Neoprene |
| Acetaldehyde | A | B | A | C | A/140° | A | A | X | X | B | A | A | B | X |
| Acetamide | X | X | A | A | A/140° | A | | A | B | X | A | A | A | B |
| Acetate Solvents | A | | A | X | A | A | A | X | X | X | A | | B | X |
| Acetic Acid - 20% | A | A | | B | B | | A | C | C | A | A | A | B | B |
| Acetic Acid - 30% | A | A | X | B | B | | B | X | C | A | A | A | B | B |
| Acetic Acid - 50% | A | A | X | B | B | | B | C | C | | A | A | B | C |
| Acetic Acid - Glacial | A | X | B | C | A/120° | A | B | X | C | | A | B | B | X |
| Acetic Anhydride | A | B/212° | B | X | B/70° | A | X | X | C | C | A | B | A | B |
| Acetone | A | A | B | X | X | | B | X | X | C | A | A | B | X |
| Acetone Cyanohydrin | B | B | B | | | | | X | X | | A | X | A | B |
| Acetonitrile | A | A | A | | A | | A | X | C | | A | A | A | A |
| Acetophenone | A | A | B | A/70° | A | A | | X | X | | A | A | B | X |
| Acetyl Acetone | B | B | X | | | | | X | X | | A | A | B | X |
| Acetyl Chloride | B | A | X | X | A | A | | B | X | X | A | C | B | X |
| Acetylene | A | A | A | X | A | A | A | A | A | A | A | A | C | C |
| Acetyl Sallicylic Acid | B | B | X | | | | | A | | | A | B | A | X |
| Acetylene Tetrabromide | | A | X | | | | | A | X | | A | | X | X |
| Acrolein (Acrylaldehyde) | B | B | B | | | | | B | B | X | A | | A | |
| Acrylonitrile | A | A | A | B | A | | | X | X | X | A | X | B | X |
| Adipic Acid | B | B | B | A | A | | | A | B | X | A | | B | X |
| Allyl Alcohol | A | A | A | | A | | | X | A | | A | A | B | A |
| Alcohols | | | | A | A | A | A | | | B | | | | |
| Amyl | A | | B | B | A | A | A | B | | A | A | | A | B |
| Benzyl | A | | B | A | A | | | A | | X | A | | A | B |
| Butyl | A | | B | B | A | A | A | A | | X | A | | A | A |
| Diacetone | A | A | A | | X | | A | X | X | X | A | B | C | X |
| Ethyl (Ethanol) | A | B | B | | A/100° | A | | B | A | A | A | | B | A |
| Hexyl (1-Hexanol) | A | | A | | A/70° | | | A | A | X | A | | B | B |
| Isobutyl | A | | B | | | | | A | C | B | A | | A | A |
| Isopropyl | A | C | B | | A | | | A | C | A | A | | B | B |
| Methyl (Methanol) | A | A | B | | A/120° | | | X | A | A | A | X | A | A |
| Octyl | A | | A | | | | | A | B | X | A | | B | B |
| Propyl | A | | A | | A | | | A | A | X | A | | A | A |
| Allyl Chloride | B | C | X | | A/70° | | | X | X | | A | X | | X |
| Alkazene | | | | | | | | A | X | X | A | | X | X |
| Aluminum Acetate | C | B | | | A | | A/100° | X | C | | A | A | A | C |
| Aluminum Bromide | | | | | | | | A | A | X | A | | | A |
| Aluminum Chloride | B | C | X | | A | A | B | A | A | B | A | A | A | A |
| Aluminum Fluoride | C | C | B | | A | A | X | A | A | | A | B | A | A |
| Aluminum Hydroxide | B | D | B | | A | | | B | B | X | A | A | A | A |

| Chemicals | Metals | | | Plastics | | | | Elastomers | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Stainless Steel | Cast Iron | Aluminum | Polypropylene | PVDF | Ryton | Acetal (POM) | Fluorocarbon | Nitrile | Hytrel | PTFE | EPDM | Santoprene | Neoprene |
| Aluminum Nitrate | A | | X | | A | | | A | A | | A | A | A | A |
| Aluminum Phosphate | | | | | | | | A | A | | A | A | A | A |
| Aluminum Potassium Sulfate | A | X | B | | A | | A | A | A | X | A | A | A | A |
| Aluminum Sulfate | A | X | B | A | A | A | B | A | A | B | A | A | A | A |
| Amines | A | | A | B | | A | C | X | X | X | | | A | B |
| Ammonia, Anhydrous | A | A | A | A | A | A | X | X | B | X | A | A | A | B |
| Ammonia Gas - Cold | | | | | | | | X | A | X | A | | A | A |
| Ammonia Gas - Hot | | | | | | | | X | C | | A | | A | B |
| Ammonia Liquids | A | A | A | | | | | X | | | A | | A | A |
| Ammonia Nitrate | A | B | B | A | A | | B | B | A | B | A | A | A | B |
| Ammonium Bifluoride - 10% | B | X | C | A | A | | | A | B | | A | | A | X |
| Ammonium Carbonate | B | B | B | A | A | A | | A | X | | A | A | A | B |
| Ammonium Casenite | A | | | | | | | | | | | | A | A |
| Ammonium Chloride | B | X | X | A | A | A | X | A | A | A | A | A | A | A |
| Ammonium Hydroxide | A | B | C | A | A | A | B | B | B | B | A | A | A | B |
| Ammonium Oxalate | A | | | | | | | | A | | | | A | A |
| Ammonium Persulfate | A | X | C | A | A | | | A | C | | A | B | A | A |
| Ammonium Phosphate, Monobasic | B | X | X | A | A | | | B | A | B | A | A | A | A |
| Ammonium Phosphate, Di-Basic | A | | B | A | A | A | B | A | A | | A | | A | A |
| Ammonium Phosphate, Tri-Basic | B | | X | A | A | | | A | A | | A | | A | A |
| Ammonium Sulfate | A | B | X | A | A | A | B | B | A | C | A | A | A | A |
| Ammonium Sulfide | B | | B | | | | | X | A | | A | | | A |
| Ammonium Sulfite | B | X | C | A | | | X | A | A | | A | | | |
| Ammonium Thiosulfate | A | X | | | | | | A | A | | A | A | A | A |
| Amyl Acetate | A | B | A | X | A/120° | A | X | X | X | C | A | A | B | X |
| Amyl Alcohol | A | A | A | A | A | | | A | B | A | A | A | B | A |
| Amyl Borate | | | | | | | | A | A | | A | | B | B |
| Amyl Chloride | A | A | X | X | A | | A | A | X | X | A | X | C | X |
| Amyl Chloronaphthalene | | | | | | | | A | B | | A | | C | X |
| Amyl Naphthalene | | | | | | | | A | X | X | A | X | C | X |
| Aniline | A | A | B | A | A | A | A | C | X | X | A | C | B | X |
| Aniline Dyes | B | C | B | | | | | B | C | X | A | C | B | C |
| Aniline Hydrochloride | X | X | X | X | A | | | B | C | | A | | A | X |
| Animal Fats | A | X | A | | A | | | A | A | B | A | B | C | C |
| Animal Gelatin | A | | | | | | | A | A | | A | A | | A |
| Ansul Ether | | | | | | | | X | C | X | A | | X | X |
| Anti-Freeze (Alcohol Base) | A | A | A | | | | | A | A | | A | A | | A |
| Anti-Freeze (Glycol Base) | A | A | A | | | | | A | A | A/70° | A | A | A | B |
| Aqua Regia | X | X | X | C | A | X | X | B | X | X | A | X | X | X |
| Aroclor | A | B | A | X | | | | A | C | C | A | X | | X |

**Ratings: A-Excellent; B-Good; C-Fair to Poor; X-Not Recommended; Blank-No Data**

| Chemicals | Metals | | | Plastics | | | | Elastomers | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Stainless Steel | Cast Iron | Aluminum | Polypropylene | PVDF | Ryton | Acetal (POM) | Fluorocarbon | Nitrile | Hytrel | PTFE | EPDM | Santoprene | Neoprene |
| Aromatic Hydrocarbons | A | A | A | | | | | A | X | C | A | | C | X |
| Aromatic Solvents | A | B | A | | | | | B | C | | A | X | | X |
| Arsenic Acid | B | X | A | A | A | A | | A | B | X | A | A | A | A |
| Arsenic Trichloride | X | B | B | | | | | A | C | X | A | X | B | A |
| Ascorbic Acid | A | X | A | | | | | A | | | A | | | |
| Askarel | A | | | | | | | B | B | X | A | X | X | X |
| Asphalt Hydrocarbons | A | B | A | A | A | | B | A | B | B | A | X | B | C |
| Asphalt Topping Hydrocarbons | A | A | | | | | | B | C | B | A | | | A |
| Aviation Gasoline Hydrocarbons | A | A | A | | | | | A | A | X | A | X | | C |
| Barium Carbonate | B | B | X | A | A | A | | A | A | | A | A | A | A |
| Barium Chloride Dihydrate | C | B | D | | A | B | A | A | A | | A | A | | A |
| Barium Cyanide | A | | | X | | | | A | C | X | | | A | A |
| Barium Hydroxide | A | B | X | A | A | A | | A | A | B | A | A | A | A |
| Barium Nitrate | A | A | B | A | A | | B | A | A | | A | | A | A |
| Barium Sulfate | B | B | B | A | A | A | B | A | A | X | A | A | A | A |
| Barium sulfide | B | | X | A | A | A | | A | A | | A | A | A | A |
| Beef Extract | A | X | | | | | | A | A | | A | | | A |
| Beer Water, Carbonate | A | X | A | A/75° | A/175° | A | A | A | C | B | A | A | A | A |
| Beet Sugar Liquors | A | B | A | A | A | | B | A | A | | A | A | A | A |
| Benzaldehyde | A | A | A | X | A | A | | X | X | B | A | B | B | X |
| Benzene | A | B | B | X | B | A | A | B | X | C | A | X | C | X |
| Benzene Sulfonic Acid | A | A | C | X | B/100° | A | | B | C | | A | C | | A |
| Benzoic Acid | B | X | B | X | A | A | B | A | X | | A | B | | B |
| Benzoyl Chloride | B | A | X | | A | | | B | X | X | A | X | | X |
| Benzyl Acetate | A | A | A | | | | | X | X | X | A | | | |
| Benzyl Alcohol | A | A | A | A | A | A | | A | X | C | A | C | | C |
| Black Sulfate Liquor | A | B | C | | | | | B | B | B | A | A | | A |
| Blast Furnace Gas | | | | | | | | A | C | B | A | | A | A |
| Bleach Solutions | B | | X | X | | | | B | X | C | A | A | B | X |
| Borax | A | B | B | A | A | A | B | A | B | A | A | A | A | A |
| Bordeaux Mixture | A | | | | | | | B | A | B | A | A | A | A |
| Boric Acid - 30% | A | X | A | A | A | A | C | A | A | A | A | A | A | A |
| Brake Fluid | A | A | A | X | | | | X | X | X | A | A | A | A |
| Brewery Slop | A | A | | | | | | A | A | X | A | | A | A |
| Brine | A | X | | A | A | | | A | A | B | A | A | | B |
| Bromine - Anhydrous | X | C | B | X | A/150° | | | A | X | X | A | C | C | X |
| Bromine Trifluoride | B | | A | X | | | | X | X | X | A | X | C | X |
| Bromine Water | X | X | X | X | A | | | B | X | X | A | X | B | B |
| Bromobenzene | A | B | X | X | | | | B | X | X | A | X | X | X |
| Bromotoluene | A | A | X | | | | | B | X | | A | | | |

**Ratings: A-Excellent; B-Good; C-Fair to Poor; X-Not Recommended; Blank-No Data**

| Chemicals | Metals | | | Plastics | | | | Elastomers | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Stainless Steel | Cast Iron | Aluminum | Polypropylene | PVDF | Ryton | Acetal (POM) | Fluorocarbon | Nitrile | Hytrel | PTFE | EPDM | Santoprene | Neoprene |
| Bunker Oil | A | A | A | | | | | A | A | X | A | X | B | B |
| Butadiene | A | A | A | X | A | A | | C | X | X | A | C | C | C |
| Butane | A | A | A | X | A | A | B | A | A | A | A | X | C | B |
| Butter Fats | A | X | A | | | | | A | A | B | A | A | B | C |
| Buttermilk | A | | A | A | A | | | A | A | | | | A | A |
| Butyl Acetate | A | A | A | X | B | A | B | X | X | C | A | B | B | X |
| Butyl Acetyl Ricinoleate | | | | | | | | B | C | | A | C | B | X |
| Butyl Acrylate | | | | | C | | | X | X | X | A | X | C | X |
| Butyl Alcohol | A | B | A | A | A | | | A | A | B | A | B | A | A |
| Butyl Amine | A | A | A | X | C | A | C | X | B | X | A | X | A | X |
| Butyl Benzoate | B | B | B | | | | | A | | | A | B | C | X |
| Butyl Carbitol | | | | | | | | B | A | | A | A | B | B |
| Butyl Cellosolve | | | | | B | | | X | B | | A | | A | C |
| Butyl Chloride | B | B | X | X | A | | | A | X | | A | | | |
| Butyl Ether | A | B | A | X | B | A | | C | A | | A | | | B |
| Butyl Oleate | | | | | | | | A | | | A | C | C | X |
| Butyl Stearate | B | B | B | | A | | | B | A | | A | C | C | X |
| Butylene | A | | A | X | A | A | | B | B | B | A | X | X | X |
| Butyraldehyde | A | A | A | | | | | X | X | X | A | C | C | X |
| Butyric Acid | B | X | A | A | A | A | X | C | C | B | A | C | A | X |
| Calcium Acetate Hydrate | B | C | C | | | | | X | B | X | A | A | | C |
| Clacium Bisulfite | A | X | X | | X | B | A | A | A | X | A | X | | A |
| Calcium Carbonate | B | B | C | A | A | | A | A | A | | A | A | A | A |
| Calcium Chloride | A | A | A | A | A | A | X | A | A | A | A | A | A | A |
| Calcium Hydroxide | B | B | X | A | A | | X | A | A | B | A | A | A | A |
| Calcium Hypochlorite 20% | B | X | X | A | A | A | A | B | C | B | A | B | A | X |
| Calcium Nitrate | C | C | C | A | A | A | X | A | A | | A | A | A | A |
| Calcium Sulfate | C | C | A | A | X | X | A | A | A | | A | A | | A |
| Calcium Sulfide | B | B | B | B | A | | | A | A | | A | A | A | B |
| Calgon | A | X | | A | | | | A | A | X | | | A | A |
| Cane Juice | A | A | B | X | | | | A | A | | | | A | A |
| Cane Sugar Liquors | A | A | A | A | A | | | A | A | B | A | A | A | A |
| Carbamate | | | | | | | | A | C | | A | C | A | C |
| Carbitol | A | A | A | | | | | B | B | | A | C | B | C |
| Carbolic Acid | B | A | B | C | A/150° | A | X | A | X | X | A | C | A | C |
| Carbon Dioxide | A | A | A | A | A | A | A | B | A | C | A | B | A | A |
| Carbon Disulfide | A | B | A | X | A | A | B | A | X | C | A | X | X | X |
| Carbon Monoxide | A | A | A | A | A | | B | B | C | A | A | C | A | A |
| Carbon Tetrachloride | B | C | X | X | A | A | B | A | C | X | A | X | X | X |
| Carbonated Beverages | A | | C | A | A | | | A | A | | A | | A | A |

**Ratings: A-Excellent; B-Good; C-Fair to Poor; X-Not Recommended; Blank-No Data**

| Chemicals | Metals | | | Plastics | | | | Elastomers | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Stainless Steel | Cast Iron | Aluminum | Polypropylene | PVDF | Ryton | Acetal (POM) | Fluorocarbon | Nitrile | Hytrel | PTFE | EPDM | Santoprene | Neoprene |
| Carbonic Acid | B | X | A | A | A | A | A | A | B | C | A | | A | A |
| Casein | B | | B | | | | | A | A | | A | A | | A |
| Catsup | A | X | B | A | | | | A | A | | A | | A | C |
| Cellosolve | A | | A | A/100° | A | A | A | X | C | X | A | C | C | C |
| Cellulose Acetate | A | B | B | | | | | X | B | X | A | | | B |
| Cellulube Hydraulic Fluids | A | A | A | | | | | B | X | C | A | A | X | X |
| Chlorine, Dry | | X | X | X | A | X | X | A | C | X | A | | C | C |
| Chlorine, Wet | A | C | B | X | A | X | X | A | C | X | A | X | C | X |
| Chlorine, Anhydrous Liquid | X | X | X | X | A | | | A | X | X | A | | X | X |
| Chlorine Dioxide | X | | B | X | A | | | B | X | X | A | C | X | X |
| Chlorine Trifluoride | A | | A | X | | | | C | X | | A | X | X | X |
| Chloroacetic Acid | X | X | X | A | A | A | X | C | X | X | A | B | | C |
| Chloroacetone | B | B | X | X | | | | C | X | X | A | A | C | C |
| Chlorobenzene | B | B | X | X | A/150° | A | A | A | X | X | A | X | C | X |
| Chlorobutadiene | B | B | X | X | | | | A | X | X | A | X | C | X |
| Chloroform | A | A | X | X | A | A | B | A | X | C | A | X | X | X |
| 1-Chloronaphthalene | B | B | X | X | | | | C | X | | A | X | X | X |
| Chlorosulfonic Acid | B | B | B | X | X | X | X | X | X | X | A | X | A | X |
| Chlorox | A | X | | B | | | | A | C | | A | | B | B |
| Chocolate Syrup | A | X | | A | | | | | A | | A | | A | A |
| Chromic Acid - to 10% | X | B | C | X | A/120° | A | X | A | X | X | A | A | X | X |
| Chromic Acid - over 50% | X | B | X | X | A/120° | A | X | A | X | X | A | C | X | X |
| Cider | A | X | B | | | | | A | A | C | A | | A | A |
| Citric Acid | B | X | B | B | A/250° | A | B | A | B | B | A | A | A | A |
| Citric Oils | A | X | | A | | | | A | C | | A | B | C | X |
| Cobalt Chloride | | | X | A | | | | A | A | | A | C | A | A |
| Coffee | A | | A | A | | | | A | A | | A | | A | A |
| Coke Oven Gas | | | | | A | | | A | C | | A | | B | C |
| Copper Acetate | D | C | X | | A | | | X | B | X | A | A | A | C |
| Copper Chloride | X | X | X | A | A | | | A | A | A | A | A | A | A |
| Copper Cyanide | A | A | X | A | A | A | | A | A | A | A | A | A | A |
| Copper Fluoroborate | X | X | A | B | | | | A | A | A | | B | | |
| Copper Nitrate Hexahydrate | A | X | X | A | A | A | A | A | A | A | A | A | | A |
| Copper Sulfate | A | X | X | A | A | A | A | A | A | A | A | A | A | A |
| Corn Oil | B | C | B | A | A | | | A | A | A | A | C | B | C |
| Cotton Seed Oil | C | A | B | | B | A | A | A | C | A | A | A | A | A |
| Cream | X | | A | | | | A | | C | | | A | A | |
| Creosote, Tar Oil | B | B | B | X | | | X | A | A | X | A | X | B | C |
| Cresol | A | C | B | X | A/150° | | X | A | C | | A | X | B | X |
| Cutting Oil (Water Soluble) | A | A | A | | | | | A | C | | A | | | X |

**Ratings: A-Excellent; B-Good; C-Fair to Poor; X-Not Recommended; Blank-No Data**

| Chemicals | Metals | | | Plastics | | | | Elastomers | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Stainless Steel | Cast Iron | Aluminum | Polypropylene | PVDF | Ryton | Acetal (POM) | Fluorocarbon | Nitrile | Hytrel | PTFE | EPDM | Santoprene | Neoprene |
| Cutting Oil (Sulfur Base) | A | A | A | | | | | A | A | | A | | | C |
| Cyclohexane | B | B | B | X | A | A | A | A | B | A | A | X | C | X |
| Cyclohexanol | A | B | C | B | A/150° | A | A | A | B | | A | X | B | A |
| Cyclohexanone | B | B | B | X | A | A | A | X | X | X | A | C | C | X |
| Decalin | | | | | | | | A | X | | A | X | | X |
| Decane | | | | A/70° | A | | | A | B | | A | C | C | X |
| Decanol | | | | | | | | B | A | | A | | | X |
| Denatured Alcohol | A | B | B | A | A | A | | B | A | | A | A | B | B |
| Detergent Solutions | A | | B | A | | A/140° | A | A | A | B | A | A | B | A |
| Developing Fluids & Solutions | A | X | | | | | | A | A | X | A | C | A | A |
| Diacetone Alcohol | A | A | A | X | C | | A | X | X | C | A | B | B | X |
| Dibenzyl Ether | B | B | B | | C | | | C | X | | A | C | C | X |
| Dibenzyl Sebecate | | | | | | | | B | X | A | A | C | C | X |
| Dibutyl Amine | A | A | | X | B/70° | | | B | C | | A | X | B | X |
| Dibutyl Phthalate | A | A | A | X | X | A | | B | X | A | A | A | B | X |
| Dibutyl Sebecate | A | A | | C | | | | B | X | A | A | C | B | X |
| o-Dichlorobenzene | B | B | X | B | A/150° | X | | A | X | X | A | X | X | X |
| Dichloro Isopropyl Ether | | | | X | | | | C | X | X | A | X | X | X |
| Dicyclohexylamine | | | | | | | | X | X | | A | X | B | X |
| Diesel Oil (Fuel ASTM #2) | A | A | A | B | A | | | A | A | B | A | X | C | C |
| Diester Synthetic Oils | A | A | A | | | | | A | B | | A | X | | X |
| Diethyl Amine | A | B | B | A | A | | | X | C | | A | C | | C |
| Diethyl Benzene | | | | | | | | A | X | | A | X | C | X |
| Diethyl Ether | A | A | B | X | A | A | A | X | B | C | A | X | B | C |
| Diethyl Phthalate | A | A | A | | | | | C | X | A | A | | | |
| Diethyl Sebecate | A | A | A | A/120° | A/120° | | | A | X | A | A | C | B | X |
| Diethylene Ether (Dioxane) | A | A | A | | | | | | X | | A | A | | X |
| Diethylene Glycol | A | A | A | A | | A | | A | A | A | A | A | A | A |
| Diisobutylene | | | | A | A | | | A | B | X | A | | C | C |
| Diisopropyl Benzene | | | | | | | | A | X | X | A | X | C | X |
| Diisopropyl Ketone | A | | | | | | | X | X | | A | A | C | X |
| Dimethylaniline | | B | B | X | A | A | | X | X | | A | C | B | X |
| Dimethyl Formamide | A | | A | A/120° | A/120° | | B | X | C | B | A | | A | X |
| Dimethyl Phthalate | | | | | A/70° | A | | A | X | A | A | C | A | X |
| Dinitrotoluene | A | | | | | A | | C | X | | A | X | B | X |
| Dioctyl Phthalate | A | A | A | | | | | B | X | A | A | B | C | X |
| Dioctyl Sebecate | A | A | A | | | | | C | X | | A | C | C | X |
| Dioxolanes | | | | | | | | C | X | | A | B | C | X |
| Dipentene | A | A | A | | | | | A | C | | A | X | C | X |
| Diphenyl Oxides | A | A | B | | A | | | A | X | | A | C | C | X |

**Ratings: A-Excellent; B-Good; C-Fair to Poor; X-Not Recommended; Blank-No Data**

| Chemicals | Metals | | | Plastics | | | | Elastomers | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Stainless Steel | Cast Iron | Aluminum | Polypropylene | PVDF | Ryton | Acetal (POM) | Fluorocarbon | Nitrile | Hytrel | PTFE | EPDM | Santoprene | Neoprene |
| Dispersing Oil #10 | A | A | A | | | | | C | X | | A | X | | X |
| Dowtherm | A | B | A | | | | | A | X | B | A | X | X | X |
| Drycleaning Fluids | A | A | A | X | | | | A | C | | A | | X | X |
| Dyes | | B | B | | | | | | C | | | | | |
| Epichlorohydrin | A | A | X | A | X | A | A | X | X | X | A | B | B | X |
| Epsom Salts | A | | A | A | A | | | A | A | | A | | A | A |
| Ethane | A | A | A | C | | | A | A | A | | A | X | C | C |
| Ethanolamine | A | A | B | X | C | A | X | X | B | | A | B | A | C |
| Ethyl Acetate | A | A | A | C | A | A | A | X | X | C | A | B | C | X |
| Ethyl Acetoacetate | A | A | A | | A/70° | | | X | X | X | A | C | C | X |
| Ethyl Acrylate | A | A | A | B | B/70° | | | X | X | | A | C | C | X |
| Ethyl Alcohol | A | B | B | A/100° | A | A | | B | A | A | A | | | A |
| Ethyl Benzene | B | B | B | X | A | | A | A | X | | A | X | C | X |
| Ethyl Benzoate | A | A | A | B | | | | A | X | | A | C | C | X |
| Ethyl Butyl Acetate | | | | | | | | X | X | | A | | | |
| Ethyl Butyl Alcohol | | | | | | | | B | A | X | A | | | |
| Ethyl Butyl Ketone | | | | | | | | X | X | | A | | | |
| Ethyl Cellosolve | | | | | | | | X | C | | A | B | B | C |
| Ethyl Cellulose (Ethocel) | B | A | B | C | | | | X | B | B | A | B | A | B |
| Ethyl Chloride | A | B | X | X | A | A | A | A | A | X | A | A | C | C |
| Ethyl Chlorocarbonate | | | | | | | | A | | X | A | | A | C |
| Ethyl Formate | B | A | B | | | | | A | X | X | A | C | B | B |
| Ethyl Oxalate | | | | | | | | B | X | X | A | A | B | X |
| Ethyl Pentachlorobenzene | | | X | X | | | | A | X | | A | | X | X |
| Ethyl Silicate | A | A | B | | | | | A | A | B | A | A | B | A |
| Ethyl Sulfate | X | | | | | | | D | A | | A | | B | |
| Ethylene | A | A | A | | | | | A | B | X | A | C | C | A |
| Ethylene Chlorohydrin | A | B | | X | A/70° | | | B | X | X | A | A | C | B |
| Ethylene Diamine | A | A | C | A | B | A | A | X | B | | A | A | A | A |
| Ethylene Dichloride | B | B | X | X | A | A | B | B | X | X | A | X | X | X |
| Ethylene Glycol | A | A | A | A/120° | A | A | A | A/70° | A | A/70° | A | A | A | A |
| Ethylene Trichloride | A | A | X | X | | | | A | X | | A | X | X | X |
| Fatty Acids | A | X | A | B | A | | A | A | B | X | A | X | B | C |
| Ferric Chloride | X | X | X | A | A | A | A | A | A | C | A | A | A | A |
| Ferric Nitrate | B | X | X | A | A | A | A | A | A | X | A | A | A | A |
| Ferric Sulfate | B | X | C | A | A | A | B | A | A | A | A | A | A | A |
| Ferrous Chloride | C | X | X | A | A | A | B | A | A | X | A | A | A | A |
| Ferrous Sulfate | B | D | D | A | A | A | B | A | A | A | A | A | A | A |
| Fish Oil | | | | | | | | A | A | B | A | | B | |
| Fluoboric Acid | B | X | X | A | A | A | | B | A | X | A | A | A | B |

| Chemicals | Metals | | | Plastics | | | | Elastomers | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Stainless Steel | Cast Iron | Aluminum | Polypropylene | PVDF | Ryton | Acetal (POM) | Fluorocarbon | Nitrile | Hytrel | PTFE | EPDM | Santoprene | Neoprene |
| Fluorine | A | | A | X | A/70° | | | B | X | X | A | C | X | C |
| Fluorobenzene | | | | X | | | | A | X | | A | X | C | X |
| Fluorolube (Fluorocarbon Oils) | A | A | A | X | | | | B | C | | A | A | X | A |
| Formaldehyde | A | C | A | A | A/120° | A | A | A | B | C | A | A | B | C |
| Formic Acid | C | X | X | A/70° | A | A | A | C | C | C | A | B | A | B |
| Freon 11 | A | A | B | B | A | A | | B | C | A | A | X | X | C |
| Freon 12 | A | A | A | | A | | | B | B | A | A | B | X | B |
| Freon 21 | | | A | | A | | | X | X | | A | X | X | B |
| Freon 22 | A | A | A | | A | | | X | X | X | A | C | X | B |
| Freon 113 | A | | B | | A | | | B | B | A | A | X | X | A |
| Freon 114 | A | | B | | A | | | A | A | A | A | C | X | A |
| Freon 115 | | | A | | | | | B | A | | A | A | X | A |
| Fruit Juices | A | X | B | A | A | A | | A | A | B | A | A | A | A |
| Fuel Oils (ASTM #1 thru #9) | A | A | A | C | A | A | C | A | A | B | A | X | C | C |
| Fumaric Acid | | | | | | | | A | C | B | A | | A | B |
| Furan | | | | C | X | A | | C | X | X | A | X | C | X |
| Furfural | A | B | A | X | B/120° | A | B | X | X | B | A | B | C | B |
| Fusel Oil | | | | | | | | A | A | | A | A | | A |
| Gallic Acid | B | X | A | A/70° | A/70° | A | | A | B | X | A | B | B | C |
| Gasoline (Unleaded) | A | A | A | C | A | A | A | A | X | | A | X | C | X |
| Gasoline (Petrol) | A | A | A | C | A | A | A | A | A | A | A | X | C | C |
| Gelatin | A | A | A | A | A | | B | B | A | B | A | A | A | A |
| Glucose (Corn Syrup) | A | A | A | A | A | | A | A | A | B | A | A | A | A |
| Glue | B | A | A | A | | | B | A | A | B | A | B | A | A |
| Glycerol (Glycerine) | A | B | A | A | A | A | A | A | A | A | A | A | A | A |
| Glycolic Acid | | | | A | A | A | | A | A | | | | A | A |
| Glycols | B | B | B | A | A | A | A | A | A | | A | | A | A |
| Gold Monocyanide | X | | | | | | | A | A | | | | A | A |
| Grape Juice | A | X | | A | A | | | A | C | | A | | A | X |
| Grapefruit Juice | A | X | | | | | | A | X | | A | | | X |
| Grease | A | | A | | | | | A | A | A | A | | B | X |
| Green Sulfate Liquor | A | C | B | A | | | | A | B | X | A | A | A | B |
| Halowax Oil | | | X | | | | | A | X | | A | X | X | X |
| Heptane | A | A | A | C/140° | A | A | A | A | A | B | A | X | C | C |
| Hexane | A | A | A | C/140° | A | A | C | A | A | A | A | X | A | B |
| Hexane 1 (Hexylene) | | | | | | | | A | A | | A | X | C | B |
| Hexyl Alcohol (Hexanol) | A | A | A | | A | | | A | A | X | A | C | | B |
| Hexylene Glycol (Brake Fluid) | A | A | A | | | | | A | A | X | A | C | | A |
| Honey | A | A | A | A | | | | | | | A | | A | A |
| Hydraulic Oil | A | A | A | X | | | C | A | A | A | A | X | X | B |

| Chemicals | Metals | | | Plastics | | | | Elastomers | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Stainless Steel | Cast Iron | Aluminum | Polypropylene | PVDF | Ryton | Acetal (POM) | Fluorocarbon | Nitrile | Hytrel | PTFE | EPDM | Santoprene | Neoprene |
| Hydrazine | A | X | A | X | X | | B | X | C | X | A | A | A | C |
| Hydrobromic Acid | A | A | A | B | A | A | X | A | X | | A | A | B | C |
| Hydrochloric Acid 20% | X | C | X | A | A | A | X | A | B | X | A | A | A | B |
| Hydrochloric Acid 30% | X | X | X | B | A | A | X | B | C | X | A | A | | C |
| Hydrocyanic Acid | A | X | A | A | A | | X | A | B | X | A | A | B | C |
| Hydrogen Fluoride | X | | X | A | A | | | A | X | X | A | C | | C |
| Hydrofluoric Acid* | X | X | C | A | A | A | X | X | | X | A | C | X | C |
| Hydrogen Peroxide - 3% | | | A | A | A | X | | A | B | X | A | B | A | B |
| Hydrogen Peroxide - 10% | A | B | A | A | A | X | | A | C | X | A | B | | C |
| Hydrogen Peroxide - 30% | B | X | A | A | A | X | | A | C | X | A | B | | X |
| Hydrogen Peroxide - 90% | A | X | A | | | X | | A | X | X | A | C | | B |
| Hydrogen Sulfide | A/160° | X | A | A | A | A | C | X | X | A | A | A | A | C |
| Hydroquinone | A | B | A | | A | | | C | C | | A | | A | X |
| Hydroxyacetic Acid - 10% | B | | B | | | | | X | X | | A | | A | X |
| Hypochlorous Acid | X | X | X | A | A | | | A | X | | A | B | A | X |
| Ink | A | A | X | | A/150° | A/140° | | A | | A | | | C | A |
| Iodine | X | X | A | A | A | | | A | B | B | A | B | A | B |
| Iodoform | A | A | A | | A | | | A | | | A | A | B | |
| Isobutyl Alcohol | | | A | A | | A | A | A | B | | A | A | | B |
| Isobutyric Acid | | | A | | | | | | X | | A | A | | B |
| Isododecane | B | B | B | | | | | A | B | | A | X | | A |
| Isooctane | A | A | A | A | A | A | | A | A | A | A | X | C | B |
| Isopentane | | | | | | | | A | A | | A | | | |
| Isophorone | A | A | A | | | | | X | X | | A | C | B | X |
| Isopropyl Alcohol | A | A | A | A | A | A | A | A | B | A | A | B | | A |
| Isopropyl Chloride | A | A | X | X | | | | B | X | | A | X | C | X |
| Isopropyl Ether | A | | B | X | A/70° | | | X | C | | A | X | C | C |
| Jet Fuels (JP1 to JP6) | A | A | A | X | A | A | A | A | A | A | A | X | C | C |
| Kerosene | A | A | A | X | A | A | A | A | A | A | A | X | C | C |
| Lacquers | A | B | A | | | | B | X | X | X | A | X | C | X |
| Lacquer Solvents | A | B | A | C | X | | B | X | X | C | A | X | C | X |
| Lactic Acid | B | X | A | A | A | A | C | A | B | X | A | A | A | B |
| Lard | B | A | A | A | A | | B | A | A | B | A | X | B | C |
| Latex | A | | A | A | | | C | A | A | | A | | | A |
| Lavender Oil | | | | | | | | B | B | | A | X | B | X |
| Lead Acetate | B | | X | A | A | A | A | X | B | | A | A | A | A |
| Lead Nitrate | B | B | X | A | A | | | A | B | | A | A | | A |
| Lead Sulfamate | | | A | | | B | A | A | A | | | B | | |
| Lemon Oil | | A | C | | | | | A | C | | | | | |
| ***NOTE: Glass Filled Polypropylene pump sections are not compatible with Hydrofluoric Acid** | | | | | | | | | | | | | | |

**Ratings: A-Excellent; B-Good; C-Fair to Poor; X-Not Recommended; Blank-No Data**

| Chemicals | Metals | | | Plastics | | | | Elastomers | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Stainless Steel | Cast Iron | Aluminum | Polypropylene | PVDF | Ryton | Acetal (POM) | Fluorocarbon | Nitrile | Hytrel | PTFE | EPDM | Santoprene | Neoprene |
| Ligroin | A | A | | X | | | | A | A | | A | X | B | B |
| Lime, Soda | | | | | | | | B | B | A | A | A | A | B |
| Lime Bleach | | | X | B | | | | A | A | | A | A | A | C |
| Lime Slurries | B | | B | | | | | C | B | C | A | | | A |
| Lime Sulfur | A | | X | A | | | | A | A | | A | A | B | A |
| Linoleic Acid | A | | A | A | A | | | B | B | | A | X | B | X |
| Linseed Oil (Flaxseed Oil) | A | A | A | A | A | A | A | A | A | B | A | C | B | A |
| Lindol | | | | | | | | B | X | | A | | A | C |
| Lubricating Oils (Petroleum) | A | A | A | C | A | A | A | A | A | A | A | X | X | B/150° |
| Lye | A | | | A | A/150° | A | X | B | C | C | A | | A | B |
| Magnesium Carbonate | B | B | A | A | A | | A | A | A | A | A | C | A | A |
| Magnesium Chloride | D | D | D | A | A | A | B | A | A | B | A | A | A | A |
| Magnesium Hydroxide | A | A | D | A | A | A | A | A | B | C | A | A | A | B |
| Magnesium Nitrate | A | B | D | A | A | A | | A | A | | A | A | A | A |
| Magnesium Oxide | A | A | B | | | | | B | A | | A | | A | A |
| Magnesium Sulfate | B | A | D | A | A | A | A | A | A | B | A | A | A | A |
| Maleic Acid | B | B | B | A | A | | | A | X | | A | X | A | A |
| Maleic Anhydride | A | B | A | | | | | A | | | A | X | A | |
| Malic Acid | A | | B | | | | | A | B | | A | X | A | C |
| Maple Sugar Liquors | A | | | | | | | A | A | | A | A | | A |
| Mayonnaise | A | X | X | A | | | | A | A | | A | | A | A |
| Mercuric Chloride | X | X | X | A | A | | B | A | A | B | A | A | A | B |
| Mercuric Cyanide | B | B | X | A | A | | | A | B | X | A | A | A | B |
| Mercurous Nitrate | B | B | X | A | A | | | A | B | | A | A | | B |
| Mercury | A | A | X | A | A | | C | A | A | A | A | A | A | A |
| Mesityl Oxide | A | A | A | | | | | X | X | | A | B | C | X |
| Methane | A | A | A | B | A | | A | B | A | B | A | X | C | B |
| Methyl Acetate | A | A | A | C | | | B | X | X | C | A | C | B | C |
| Methyl Acrylate | A | A | | | A/70° | | | X | | | A | C | B | C |
| Methyl Alcohol (Methanol) | A | A | B | A | A | A | A | C | A | A | A | A | A | A |
| Methyl Aniline | | | | C | | | | C | X | | A | | | X |
| Methyl Bromide | A | A | X | X | A | | | A | C | X | A | A | X | X |
| Methyl Butyl Ketone | A | | | X | | | | X | X | | A | B | C | X |
| Methyl Cellosolve | | | A | A | A | | | X | X | | A | | B | X |
| Methyl Chloride | A | A | X | X | A | A | B | B | X | X | A | C | X | X |
| Methyl Cyclopentane | A | | | | | | | A | B | | A | X | C | X |
| Methyl Dichloride | | | X | X | | | | A | X | | | | X | X |
| Methyl Ethyl Ketone | A | A | A | X | X | A | B | X | X | C | A | A | B | X |
| Methyl Formate | A | A | A | | | | | X | X | | A | C | B | B |
| Methyl Isobutyl Ketone | B | B | A | C/70° | A/70° | A | A | X | X | X | A | C | C | X |

**Ratings: A-Excellent; B-Good; C-Fair to Poor; X-Not Recommended; Blank-No Data**

| Chemicals | Metals | | | Plastics | | | | Elastomers | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Stainless Steel | Cast Iron | Aluminum | Polypropylene | PVDF | Ryton | Acetal (POM) | Fluorocarbon | Nitrile | Hytrel | PTFE | EPDM | Santoprene | Neoprene |
| Methyl Isopropyl Ketone | A | | | C | A/70° | | | X | X | X | A | C | C | X |
| Methyl Methacrylate | A | | B | | A/70° | | | C | X | | A | X | B | X |
| Methyl Oleate | | | | | | | | B | X | | A | C | C | X |
| Methyl Salicylate | | A | A | | | | | B | X | | A | C | B | X |
| Methylacrylic Acid | | | | | | | | B | | | A | | A | B |
| Methylamine | A | B | B | A | | | | | B | | A | A | A | A |
| Methylene Chloride | A | B | X | X | B/100° | A | | B | X | X | A | X | X | X |
| Milk | A | X | A | A | A | | A | A | B | B | A | A | A | A |
| Mineral Oil (Petroleum) | A | A | A | B | A | A | A | A | A | A | A | X | C | B |
| Mixed Acids (Sulfuric & Nitric) | B | X | X | X | A | | | A | X | | A | B | | X |
| Molasses | A | A | A | A | A | A | B | A | A | B | A | A | A | A |
| Monochlorobenzene | A | A | X | X | A/100° | A | A | A | X | C | A | | C | X |
| Monoethanolamine | A | A | B | X | X | A | X | X | B | X | A | | A | C |
| Mustard | A | X | B | A | | | A | A | C | B | A | | A | A |
| Naphtha | A | B | A | X | A | A | A | A | A | A | A | X | C | X |
| Naphthalene | A | A | B | A | A | A | A | A | X | C | A | X | C | X |
| Naphthoic Acid | A | B | B | | | | | A | B | X | A | X | | |
| Neatsfoot Oil | A | | | | | | | A | A | X | A | C | B | |
| Neville Acid | | | | | | | | B | C | X | A | C | A | C |
| Nickel Acetate | A | | C | A | A | | | X | B | | A | A | A | B |
| Nickel Chloride | B | X | X | A | A | A | B | A | A | X | A | A | A | A |
| Nickel Nitrate | A | | X | A | A | A | | A | A | | A | A | | A |
| Nickel Sulfate | B | X | X | A | A | A | A | A | A | X | A | A | A | A |
| Nitrana (Ammonia Fertilizer) | A | | | | | | | C | B | | A | | | B |
| Nitric Acid 10% | A | X | A | A | A | X | | A | X | C | A | B | A | B |
| Nitric Acid 25% | B | X | X | A | A | X | | A | X | X | A | B | C | C |
| Nitric Acid 35% | B | X | X | B | A | X | | A | X | X | A | C | | X |
| Nitric Acid 50% | A | X | X | C | A | X | | A | X | X | A | X | C | X |
| Nitric Acid 70% | A | X | | | A | X | | A | X | X | A | X | | X |
| Nitric Acid Conc. | A | X | A | X | A/120° | X | | B | X | X | A | X | C | X |
| Nitric Acid (Red Fuming) | A | X | A | X | C | | | B | X | X | A | X | X | X |
| Nitrobenzene | A | A | A | B | A/70° | A | B | B | X | X | A | X | B | X |
| Nitroethane | A | A | A | C | A/70° | | | X | X | | A | C | A | C |
| Nitrogen Tetroxide | A | B | A | X | C | | | C | X | C | A | X | | X |
| Nitromethane | A | A | A | C | B | | A/120° | X | X | X | A | C | A | C |
| Nitropropane | A | A | A | | | | | X | X | | A | A | | C |
| Octadecane | | | | | | | | A | A | | A | X | B | B |
| Octane | | | | X | A | | | A | A | | A | X | B | |
| Octachlorotoluene | | | X | X | | | | A | X | | A | | | X |
| Olive Oil | A | A | A | A | A | | A | A | A | | A | C | B | C |

**Ratings: A-Excellent; B-Good; C-Fair to Poor; X-Not Recommended; Blank-No Data**

| Chemicals | Metals | | | Plastics | | | | Elastomers | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Stainless Steel | Cast Iron | Aluminum | Polypropylene | PVDF | Ryton | Acetal (POM) | Fluorocarbon | Nitrile | Hytrel | PTFE | EPDM | Santoprene | Neoprene |
| Oxalic Acid | B | X | B | A | A/120° | B | X | B | C | X | A | A | A | B |
| Ozone | A | | B | X | A | X | C | A | X | C | A | A | A | B |
| Paints & Solvents | A | | X | | | | | | X | | A | | | X |
| Paint Thinner | A | | X | X | | | | B | A | | A | X | C | C |
| Palm Oil | A | A | | | | | | A | A | | A | | B | C |
| Palmitic Acid | A | B | B | A | A | C | | B | B | A | A | B | B | C |
| Paraffins (Paraffin Oil) | A | | A | A | | A | A | A | A | | A | | A | |
| Peanut Oil | A | A | | A/70° | A | | | A | A | | A | X | B | B |
| Pentane | B | B | A | | | A | | A | A | B | A | X | A | B |
| Peppermint Oil | A | | | | | | | A | X | | A | | C | X |
| Perchloric Acid | B | X | X | | A | X | C | A | X | X | A | B | C | B |
| Perchloroethylene | A | B | X | X | A | C | A | B | X | X | A | X | X | X |
| Petroleum (Crude Oil) | A | B | B | X | A | A | A | A | B | B | A | X | | C |
| Phenol | B | A | B | C | A/100° | X | X | A | X | X | A | C | A | C |
| Phenylbenzene | | | | | | | | A | X | | A | | C | X |
| Phenyl Ethyl Ether | | | | | | | | C | X | | A | X | C | X |
| Phenyl Hydrazine | | X | A | X | A/120° | | | A | X | | A | X | B | X |
| Phorone | | | | | | | | A | X | | A | C | B | X |
| Phosphoric Acid - 10% | A | X | X | A/120° | A | A | | A | A | | A | A | A | B |
| Phosphoric Acid - 20% | A/212° | X | X | A/120° | A | A | | A | C | | A | A | A | B |
| Phosphoric Acid - 50% | A | X | X | A/120° | A | A | | A | X | X | A | B | C | B |
| Phosphoric Acid - Conc. | A/212° | X | X | A/120° | A | A | | A | X | X | A | B | | B |
| Phosphorus Trichloride | A | B | C | X | A | A | | A | X | | A | A | B | X |
| Photographic Developer | A | X | C | A | A | A | C | A | A | X | A | | A | A |
| Pickling Solution | | | | | | | | B | | X | A | X | A | X |
| Picric Acid | A | C | A | B | A | | | A | B | X | A | B | B | B |
| Pine Oil | A | B | A | | | | | A | B | X | A | X | C | X |
| Pinene | | | | | | | | A | B | | A | X | C | X |
| Piperidine | | | | | | | | X | X | X | A | X | B | X |
| Plating Solution - Cadmium | | | A | | | A | X | A | B | | A | B | | |
| Plating Solution - Chrome | | | | A/130° | | X | X | A | X | | A | C | A | X |
| Plating Solution - Lead | | | | | | X | A | A | B | | A | | A | B |
| Plating Solution - Others | A | | | | | | | B | A | | A | A | A | C |
| Polyvinyl Acetate Emulsion | | B | | | A | | | X | | | A | A | A | C |
| Potassium Acetate | B | A | D | A | A | | | X | B | | A | A | A | B |
| Potassium Bicarbonate | B | C | B | A | A | A | | A | A | | A | | A | A |
| Potassium Bromide | B/212° | B/212° | A | A | A | A | | A | A | | A | A | A | A |
| Potassium Carbonate (Potash) | B | B | X | A | A | A | B | A | A | X | A | A | A | A |
| Potassium Chlorate | B | B | X | A | A | A | B | A | A | | A | A | A | A |
| Potassium Chloride | A | B | X | A | A | A | B | A | A | X | A | A | A | A |

**Ratings: A-Excellent; B-Good; C-Fair to Poor; X-Not Recommended; Blank-No Data**

| Chemicals | Metals | | | Plastics | | | | Elastomers | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Stainless Steel | Cast Iron | Aluminum | Polypropylene | PVDF | Ryton | Acetal (POM) | Fluorocarbon | Nitrile | Hytrel | PTFE | EPDM | Santoprene | Neoprene |
| Potassium Chromate | A | A | A | A | A | | | A | A | | A | | A | A |
| Potassium Cyanide | B | B | C | A | A | A | C | A | A | B | A | A | A | A |
| Potassium Dichromate | A | A | A | A | A | A | C | A | A | B | A | A | A | A |
| Potassium Hydroxide | A | B | X | A | A/150° | A | C | B | B | C | A | A | A | B |
| Potassium Iodide | B | | C | A | A | | | A | A | | A | A | | A |
| Potassium Nitrate | B | B | A | A | A | A | B | A | A | | A | A | A | A |
| Potassium Permanganate | B | B | B | B | A | A | A | B | C | X | A | A | A | C |
| Potassium Sulfate | A | B | B | A | A | A | B | A | A | B | A | A | A | A |
| Potassium Sulfide | B | B | X | A | A | | | A | A | | A | A | | A |
| Propane | A | A | A | X | A | | A | A | A | B | A | X | C | B |
| Propyl Acetate | A | | A | C | A | | | X | X | | A | A | B | X |
| Propyl Alcohol | A | A | A | A | A | A | A | A | B | | A | A | | B |
| Propyl Nitrate | | X | A | | | | | C | A | | A | B | B | |
| Propylene | A | A | A | | | | | A | X | | A | X | B | X |
| Propylene Glycol | A | A | A | A | A | A | A | A | A | | A | A | A | C |
| Propylene Oxide | A | B | B | X | X | | | X | | | A | C | A | X |
| Pydraul | A | A | | | | | | A | X | A | A | B | A | X |
| Pyranol | | | | | | | | A | A | | A | | | X |
| Pyridine | A | B | A | C | X | A | A | X | X | X | A | C | A | X |
| Pyroligneous Acid | B | X | D | A | A | A | X | X | C | | A | C | | C |
| Pyrrole | | | | | | | | X | X | | A | X | C | X |
| Quench Oil | A | | A | | | | | A | B | | A | | | B |
| Rape-Seed Oil | A | A | | | | | | A | B | | A | A | B | C |
| Rose Oil | A | | | | | | | A | | | A | | A | C |
| Rosin | A | | A | A | | | B | A | A | | A | | A | C |
| Rosin Oil | | | | | | | | A | A | | A | | | A |
| Rubber Solvents | A | | A | | | | | X | X | | A | | | C |
| Rum | A | | | | | | | B | A | | A | A | A | A |
| Rust Inhibitors | A | | | A | | | | A | A | | | | B | C |
| Salad Dressing | A | X | B | A | | | | A | A | | | | A | |
| Sal Ammoniac | B | X | X | A | A | A | X | A | A | A | A | A | A | A |
| Sal Soda | A | A | X | | | | | A | A | | A | A | | A |
| Salicylic Acid | B | X | A | A | A | | | B | B | | A | A | | B |
| Salt Water (Brine) | A | X | B | A | A | A | A | A | A | A | A | A | A | B |
| Sea Water (Brine) | A | C | A | A | A | | | A | A | A | A | A | A | B |
| Sesame Seed Oil | A | A | | | | | | A | A | | A | | B | C |
| Sewage | A | B | B | A | A | | | A | A | B | A | C | A | B |
| Silicate Esters | | | | | | | | A | B | C | A | X | B | A |
| Silicone Oils | A | B | B | A | A | A | | A | A | B | A | A | C | C |
| Silver Cyanide | A | A | X | A | A | | | A | | | | | | A |

**Ratings: A-Excellent; B-Good; C-Fair to Poor; X-Not Recommended; Blank-No Data**

| Chemicals | Metals | | | Plastics | | | | Elastomers | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Stainless Steel | Cast Iron | Aluminum | Polypropylene | PVDF | Ryton | Acetal (POM) | Fluorocarbon | Nitrile | Hytrel | PTFE | EPDM | Santoprene | Neoprene |
| Silver Nitrate | A | X | X | A | A | A | A | A | B | X | A | A | A | A |
| Skydrol Hydraulic Fluid | A | | | | | | | C | X | A | A | A | B | X |
| Soap Solutions | A | X | C | A | A | A | A | A | A | A | A | A | A | B |
| Soda Ash (Sodium Carbonate) | A | A | X | | | | | A | A | B | A | A | A | A |
| Sodium Acetate | A | A | A | A | A | A | A | X | C | | A | A | A | C |
| Sodium Aluminate | A | A | C | A | A | | | A | A | | A | | A | A |
| Sodium Bicarbonate | A | C | B | A | A | A | X | A | A | B | A | A | A | A |
| Sodium Bisulfite(Niter Cake) | A | D | B | A | A | | X | A | C | B | A | A | A | A |
| Sodium Borate | B | B | C | A | A | A | C | A | A | B | A | A | A | A |
| Sodium Bromide | B | C | C | A | A | | | A | | | A | | | |
| Sodium Chlorate | B | B | B | A | A | A | B | A | A | | A | A | A | B |
| Sodium Chloride | C | B | C | A | A | A | A | A | A | A | A | A | A | A |
| Sodium Chromate | C | B | D | | A | | A | A | A | A | A | | A | A |
| Sodium Cyanide | A | A | X | A | A | A | C | A | A | B | A | A | A | A |
| Sodium Dichromate | | | | A | A | A | | B | | X | A | A | | B |
| Sodium Fluoride | B | | B | A | A | | | A | A | | A | A | | A |
| Sodium Hydroxide - 50% | B | C | X | A | A | X | X | X | B | X | A | A | A | B |
| Sodium Hypochlorite | X | X | X | X | A | X | X | C | X | C | A | C | A | B |
| Sodium Metaphosphate | B | C | X | X | | | B | A | B | | A | A | A | C |
| Sodium Metasilicate | A | A | B | A | A | | B | A | A | | | | A | A |
| Sodium Nitrate | A | A | A | A | A | A | A | A | C | B | A | A | A | B |
| Sodium Nitrite | A | A | A | A | A | | | A | A | | A | | | X |
| Sodium Perborate | C | C | X | A | A | | B | A | C | B | A | A | A | B |
| Sodium Peroxide | B | X | X | B | A | | X | A | B | B | A | B | B | B |
| Sodium Phosphate | B | B | X | A | A | | | A | B | B | A | A | A | B |
| Sodium Silicates | A | B | C | A | A | A | | A | A | B | A | A | A | A |
| Sodium Sulfate | A | B | B | A | A | A | | A | A | B | A | A | A | B |
| Sodium Sulfide | A | B | X | A | A | A | A | A | A | B | A | A | A | A |
| Sodium Sulfite | A | X | A | A | A | A | A | A | A | A | A | A | | A |
| Sodium Tetraborate | A | | C | | | B | C | B | | B | | A | | |
| Sodium Thiosulfate | A | C | B | A | A | A | B | A | A | | A | A | | A |
| Sorgum | A | A | A | A | | | | | A | | | A | | |
| Soybean Oil | A | A | B | A | B | A | B | A | A | C | A | A | A | C |
| Soy Sauce | X | X | A | | | | | A | A | | | A | | |
| Sperm Oil | A | A | | | | | | A | A | | A | | B | X |
| Stannic Chloride | X | X | X | A | A | A | | A | A | B | A | B | A | B |
| Stannous Chloride | C | B | X | A | A | A | | A | A | B | A | B | | A |
| Starch | A | C | A | A | | A | B | B | A | B | A | B | A | A |
| Stearic Acid | A | C | C | A | A | | C | A | B | B | A | B | B | B |
| Stoddard Solvent | A | A | A | A | X | | A | A | A | C | A | X | C | C |

**Ratings: A-Excellent; B-Good; C-Fair to Poor; X-Not Recommended; Blank-No Data**

| Chemicals | Metals | | | Plastics | | | | Elastomers | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Stainless Steel | Cast Iron | Aluminum | Polypropylene | PVDF | Ryton | Acetal (POM) | Fluorocarbon | Nitrile | Hytrel | PTFE | EPDM | Santoprene | Neoprene |
| Styrene | A | A | A | | A | | | B | X | X | A | X | C | X |
| Sucrose Solution | A | B | A | | | | | A | A | B | A | A | A | A |
| Sulfite Liquors | A | | A | A | | | | B | B | C | A | A | | |
| Sulfur | A | A | A | B | A | A | A | A | B | A | A | X | | B |
| Sulfur Chloride | B | X | X | X | A | | | A | C | C | A | X | X | X |
| Sulfur Dioxide | A | X | X | A | A | A | B | A | X | X | A | B | A | A |
| Sulfur Hexafluoride | | | | | | | | C | B | B | A | A | B | A |
| Sulfur Trioxide | B | X | X | X | X | | | A | C | X | A | C | C | C |
| Sulfuric Acid - 10% | C | X | X | A | A | X | | A | B | A | A | A | A | A |
| Sulfuric Acid - 25% | C | X | X | A | A | X | | A | C | A | A | B | A | B |
| Sulfuric Acid - 50% | X | X | X | A | A | X | | A | C | A | A | B | A | B |
| Sulfuric Acid - 60% | X | X | X | A | A | X | | A | X | C | A | B | A | C |
| Sulfuric Acid - 75% | C | C | X | A | A | X | | A | X | C | A | C | A | X |
| Sulfuric Acid - 95% | B | B | X | X | A | X | | A | X | X | A | C | A | X |
| Sulfuric Acid - Conc. | B | B | X | X | A | | | A | X | X | A | C | B | X |
| Sulfuric Acid Fuming | B | X | C | | | | | B | X | X | A | X | | X |
| Sulfurous Acid | B | X | X | A | A | A | X | X | B | X | A | C | A | X |
| Tall Oil | B | B | X | A | A | | | A | A | | A | X | A | B |
| Tallow | A | | A | B | | | C | A | A | B | A | | B | |
| Tannic Acid | A | C | C | A | A | A | X | A | C | A | A | C | A | B |
| Tanning Liquors | A | | C | A | | | X | A | A | X | A | | A | B |
| Tar, Bituminous | B | B | A | A | | | A | A | B | B | A | X | B | C |
| Tartaric Acid | A | X | C | A | A | A | X | A | B | B | A | B | A | A |
| Terpineol | A | A | A | X | B | | | A | C | | A | C | B | X |
| Tertiary Butyl Alcohol | | | | B | | | | B | A | | A | | B | A |
| Tertiary Butyl Catechol | B | B | C | | | | | A | X | | A | | B | B |
| Tertiary Butyl Mercaptan | | | | | | | | A | X | | A | | B | X |
| Tetra Bromomethane | | | X | X | | | | A | X | | A | | X | X |
| Tetrabutyl Titanate | | | | | | | | A | B | | A | | B | A |
| Tetrachloroethylene | | | | | A | | | A | | | | | X | |
| Tetrachloroethane | C | A | X | X | A | | A | A | X | | A | X | X | X |
| Tetraethyl Lead | A | A | B | A | A | | | B | B | B | A | X | C | X |
| Tetraethylene Glycol | | | | | | | | A | A | | A | | | |
| Tetrahydrofuran | A | | | C/100° | B/70° | A | A | X | X | C | A | C | B | X |
| Tetrahydronaphthalene(Tetralin) | A | A | A | C | | A | | A | X | | A | X | | X |
| Thionyl Chloride | A | X | X | B | X | | B | B | X | | A | X | B | X |
| Titanium Tetrachloride | B | A | X | B | B | | | A | C | | A | X | X | X |
| Toluene | A | A | A | X | A | A | B | B | C | C | A | X | C | X |
| Toluene Diisocyanate | | | | | | | | C | | B | A | A | B | X |
| Tomato Pulp & Juice | A | A | B | A | A | A | | A | A | | A | | A | |

**Ratings: A-Excellent; B-Good; C-Fair to Poor; X-Not Recommended; Blank-No Data**

| Chemicals | Metals | | | Plastics | | | | Elastomers | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Stainless Steel | Cast Iron | Aluminum | Polypropylene | PVDF | Ryton | Acetal (POM) | Fluorocarbon | Nitrile | Hytrel | PTFE | EPDM | Santoprene | Neoprene |
| Toothpaste | A | X | | | | | | A | A | | A | | | C |
| Transformer Oil | A | A | A | B | | | C | A | B | | A | X | X | C |
| Transmission Fluid (Type A) | A | A | A | | | | | A | A | B | A | X | C | C |
| Triacetin | | | B | | | | | X | A | | A | A | A | B |
| Tributyoxyl Ethyl Phosphate | | | | | | | | B | X | | A | A | B | X |
| Tributyl Phosphate | A | A | A | B/100° | A/100° | | | X | X | C | A | C | B | X |
| Tributyl Mercaptan | | | | | | | | A | X | | A | | B | X |
| Trichloroacetic Acid | X | X | X | B | B | A | | X | C | X | A | C | B | B |
| Trichloroethane | A | C | X | X | A | A | | B | X | X | A | X | X | X |
| Trichlorethylene | A/160° | B | X | X | A | A | B | C | X | X | A | X | X | X |
| Trichloropropane | A | A | X | X | | | | B | X | | A | | X | A |
| Tricresyl Phosphate | B | A | | B | X | | | B | X | C | A | A | B | C |
| Tricresyl Alcohol | | | | | | | | B | A | | A | | | |
| Triethanol Amine | A | A | A | A | X | A | B | X | X | X | A | B | A | A |
| Triethyl Aluminum | | | | | | | | B | X | X | A | | B | X |
| Triethyl Borane | | | | | | | | A | X | | A | | B | X |
| Triethylene Glycol | | | | A | | | | A | A | | A | | | |
| Trimethylene Glycol | A | A | A | | | | | A | A | | A | A | | |
| Trinitrotoluene | | | | | | | | C | X | | A | X | A | B |
| Trioctyl Phosphate | | | | | | | | B | X | | A | A | B | X |
| Tung Oil (Wood Oil) | A | | A | A | A | | | A | A | B | A | X | B | C |
| Turpentine | A | A | A | X | A | A | A | A | A | B | A | X | C | X |
| Urea | B | | B | A | A | | A | A | B | B | A | | | B |
| Urine | A | A | A | A | | A | C | A | A | | A | | A | X |
| Vanilla Extract | A | | | | A | | | X | A | | A | | | X |
| Varnish | A | | A | A | | | | A | B | | A | X | | C |
| Vegetable Juices | A | | C | | | | | A | A | | A | | A | C |
| Vegetable Oils | A | B | A | X | | A | | A | B | | A | A | B | C |
| Vinegar | A | X | C | A | A | A | C | A | C | C | A | A | A | B |
| Vinyl Acetate | A | A | B | B | A | | | | X | | A | | | B |
| Walnut Oil | | | | | | A | A | A | A | | A | | | B |
| Water, Distilled (Deionized) | A | C | A | A | A | A | A | A | A | | A | A | A | C |
| Water, Fresh | A | A | A | A | A | | A | A | A | A/70° | A | A | A | B |
| Waxes | A | | A | | | | | A | A | | A | X | | A |
| Weed Killers | A | | X | | | | B | A | B | | A | | B | C |
| Whiskey | A | X | A | A | A | | | A | B | B | A | A | A | A |
| White Oil | A | | | | | | | A | A | | A | X | C | C |
| White Sulfate Liquor | A | C | B | A | A | | B | B | B | | A | A | | A |
| Wines | A | X | C | A | A | | | B | A | A | A | A | A | A |
| Wort, Distillery | A | B | A | | | | A | A | | | A | | | A |

**Ratings: A-Excellent; B-Good; C-Fair to Poor; X-Not Recommended; Blank-No Data**

| Chemicals | Metals | | | Plastics | | | | Elastomers | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Stainless Steel | Cast Iron | Aluminum | Polypropylene | PVDF | Ryton | Acetal (POM) | Fluorocarbon | Nitrile | Hytrel | PTFE | EPDM | Santoprene | Neoprene |
| Xylene | B | B | A | X | A | A | | A | X | C | A | X | C | X |
| Xylidines | | B | B | | | | | X | | | A | X | C | X |
| Zeolite | A | | | | | | | A | C | | A | A | A | C |
| Zinc Acetate | | | C | A | A | | | C | C | | A | A | A | B |
| Zinc Carbonate | B | B | B | | | | | A | A | | A | | | |
| Zinc Chloride | B | B | B | A | A | A | B | A | B | A | A | A | A | B |
| Zinc Hydrosulfite | A | | X | | | | | A | A | | A | | A | A |
| Zinc Sulfate | B | X | C | A | A | A | B | B | A | X | A | A | A | A |
| | | | | | | | | | | | | | | |

**Ratings: A-Excellent; B-Good; C-Fair to Poor; X-Not Recommended; Blank-No Data**