CHEMICAL RESISTANCE GUIDE

Many new materials have been developed to handle the wide range of modern chemicals being used in industry today. Many of these materials are now being used in the construction of Kuri Tec® hose and tubing products.

The following guide has been prepared to assist the user in the selection of the correct hose for the application. The recommendations are based on the best chemical data available at the time of printing. This guide will be continuously reviewed and new information added as it becomes available.

A material's resistance to the effects of a chemical depends not only upon the particular chemical, but also on other factors such as length of exposure, service temperature, pressure, fluid velocity, and the relative concentration of each component in multi-component mixtures. Therefore, no guarantee is expressed or implied.

The chemical resistance ratings for materials are based on pure material samples and may not take into account specific factors related to the material when used in a hose or tube. It is always advisable that the product be tested under actual conditions.

Additionally, the Chemical Resistance Guide which follows does not imply conformance to any food handling regulations or federal or state/provincial laws governing hose and tubing applications.

Before using any Kuri Tec hose/tubing product with any chemical substance the user must determine the suitability of the product for his/her intended use. The user assumes all risk and liability for the use of any Kuri Tec product with any chemical or other substance.

KEY TO CHEMICAL RESISTANCE GUIDE RATINGS

E = **Excellent** – Little or no effect due to exposure to the chemical.

G = **Good** – Satisfactory service expected, but some deterioration may occur after lengthy exposure or under extreme conditions.

L = **Limited** – Variable resistance depending upon the conditions of use (e.g. nature of the chemical, its concentration, service temperature, pressure, etc.).

U = **Unsuitable** – Not resistant. Not recommended for use under any conditions.

C = **Cautionary** – Although the chemical resistance of the material may be good, special factors exist that must be considered in hose applications, such as regulatory issues, permeation of vapors, and safety, health or environmental concerns.

\- = No Data

KEY: E = Excellent G = Good L = Limited U = Unsatisfactory C = Cautionary – = No Data

Material Handled	PVC		PVC/PU Blend		Rubber Blend		LLDPE		EVA		TPU	
	Temperature (°F)											
	70	150	70	125	70	150	70	150	70	150	70	150
Acetaldehyde	U	U	U	U	L	U	G	L	G	U	U	U
Acetate Solvents - Pure	U	U	U	U	G	L	E	G	L	U	L	U
Acetic Acid - Glacial	L	U	L	U	U	U	L	U	U	U	U	U
Acetic Acid 0-10%	E	G	G	G	E	G	E	G	E	E	U	U
Acetic Acid 10-20%	G	L	G	G	G	L	E	G	E	G	U	U
Acetic Acid 20-30 Pct	G	L	G	L	G	L	E	G	E	L	U	U
Acetic Acid 30-60%	G	L	G	L	L	L	G	L	L	U	U	U
Acetic Acid 80%	L	L	L	L	U	U	U	U	L	U	U	U
Acetic Acid Vapors	G	G	G	G	G	L	G	L	G	L	U	U
Acetic Anhydride	U	U	U	U	U	U	U	U	L	L	U	U
Acetone	U	U	U	U	L	U	E	G	L	U	L	U
Acetylene	C	C	C	C	U	U	U	U	U	U	C	C
Acrylonitrile	L	U	L	U	–	–	–	–	–	–	–	–
Adipic Acid	G	L	G	L	G	L	E	G	E	G	U	U
Alcohol (See Type)	–	–	–	–	–	–	–	–	–	–	–	–
Allyl Alcohol 96%	U	U	U	U	E	G	E	G	E	G	U	U
Allyl Chloride	U	U	U	U	G	L	G	L	L	U	U	U
Alum	E	E	E	E	E	E	E	E	E	G	E	E
Aluminum Chloride	E	E	E	E	G	G	G	G	G	C	G	G
Aluminum Fluoride	G	G	G	G	G	G	G	G	G	L	G	L
Aluminum Hydroxide	L	L	L	L	G	G	G	G	G	G	G	L
Aluminum Nitrate	E	E	E	E	E	E	E	E	E	–	L	L
Aluminum Oxychloride	E	E	E	E	G	G	G	G	G	–	–	–
Aluminum Sulfate	E	E	E	E	E	E	E	E	E		G	G
Ammonia - Aqueous	L	U	L	U	G	G	E	G	E	–	U	U
Ammonia - Dry Gas	L	U	L	U	E	E	E	G	E	–	U	U
Ammonia - Liquid	U	U	U	U	G	L	E	L	E	U	U	U
Ammonium Carbonate	E	E	E	E	E	E	E	E	E	–	E	E
Ammonium Chloride	E	E	E	E	E	E	E	E	E	–	G	L
Ammonium Fluoride 25%	U	U	U	U	G	G	G	G	G	–	L	U
Ammonium Hydroxide 28%	L	U	L	U	G	G	E	E	E	E	L	U
Ammonium Metaphosphate	E	E	E	E	G	G	G	G	E	E	G	G
Ammonium Nitrate	E	E	E	E	E	E	E	E	E	–	G	G
Ammonium Persulfate	E	E	E	E	E	E	E	E	E	–	G	G
Ammonium Phosphate	G	G	G	G	G	G	E	G	E	–	G	G
Ammonium Phosphate - Neutral	E	E	E	E	G	G	E	G	E	–	G	G
Ammonium Sulfate	E	E	E	E	E	E	E	E	E	–	E	E
Ammonium Sulfide	E	E	E	E	E	E	E	E	E	–	E	E
Ammonium Thiocyanate	E	E	E	E	E	E	E	E	E	–	G	G
Amyl Acetate	U	U	U	U	U	U	L	U	U	–	U	U
Amyl Alcohol	L	U	L	U	G	L	G	L	G	L	U	U
Amyl Chloride	U	U	U	U	U	U	U	U	U	–	–	–
Aniline	U	U	U	U	U	U	U	U	U	U	U	U
Aniline Chlorohydrate	U	U	U	U	U	U	U	U	U	U	U	U
Aniline Hydrochloride	U	U	U	U	U	U	U	U	U	U	U	U
Animal Oils	L	U	L	U	U	U	L	U	L	U	G	L
Anthraquinone	E	E	E	E	E	E	E	E	E	–	–	–
Anthraqunonesulfonic Acid	E	E	E	E	E	E	E	E	E	–	U	U
Antimony Trichloride	E	E	E	E	E	E	E	E	E	–	E	E
Apple (Sauce or Juice)	E	E	–	–	–	–	E	E	–	–	–	–
Aqua Regia	L	U	L	U	U	U	U	U	U	U	U	U
Aromatic Hydrocarbons	U	U	–	–	–	–	–	–	–	–	–	–
Arsenic Acid 80%	E	G	E	G	E	G	E	G	G	–	U	U

Material Handled	PVC		PVC/PU Blend		Rubber Blend		LLDPE		EVA		TPU	
	Temperature (°F)											
	70	150	70	125	70	150	70	150	70	150	70	150
Arylsulfonic Acid	L	U	L	U	–	–	–	–	–	–	U	U
Asphalt	L	U	L	U	L	U	L	U	U	U	G	L
ASTM #1 Oil	L	U	L	U	–	–	–	–	–	–	G	G
ASTM #3 Oil	L	U	L	U	–	–	–	–	–	–	G	G
ASTM Fuel A	L	U	L	U	–	–	–	–	–	–	G	G
ASTM Fuel B	U	U	U	U	–	–	–	–	–	–	G	L
ASTM Fuel C	U	U	U	U	–	–	–	–	–	–	G	L
Barium Carbonate	E	E	E	E	E	E	E	E	E	–	E	E
Barium Chloride	E	E	E	E	E	E	E	E	E	–	E	E
Barium Hydroxide	L	L	L	L	E	E	E	E	E	–	G	L
Barium Sulfate	E	E	E	E	E	E	E	E	E	–	E	E
Barium Sulfide	E	E	E	E	E	E	E	E	E	–	E	E
Beer	E	L	–	–	–	–	E	L	–	–	–	–
Beet-Sugar Liquor	E	E	–	–	E	E	E	E	E	–	–	–
Benzaldehyde	U	U	U	U	U	U	E	G	L	U	U	U
Benzene	U	U	L	U	U	U	E	L	U	U	L	U
Benzoic Acid	G	L	G	L	G	G	G	G	G	–	U	U
Benzol	U	U	L	U	U	U	U	U	U	U	L	U
Bismuth Carbonate	E	E	E	E	E	E	E	E	E	–	E	E
Black Liquor (Paper industry)	E	E	E	E	E	E	E	E	E	–	–	–
Bleach - 12.5% Active CL	G	L	G	L	G	L	G	L	G	–	L	U
Borax	E	E	E	E	E	E	E	E	E	–	E	E
Boric Acid	E	E	E	E	E	E	E	E	E	–	G	U
Boron Trifluoride	E	E	E	E	E	E	E	E	E	–	E	E
Brake Fluid	U	U	U	U	–	–	–	–	–	–	U	U
Brine	E	E	E	E	E	E	E	E	E	–	G	U
Bromic Acid	E	L	E	L	G	G	G	G	G	–	U	U
Bromine - Liquid	U	U	U	U	U	U	U	U	U	U	U	U
Bromine - Water	U	U	U	U	U	U	U	U	U	U	U	U
Butadiene	L	U	L	L	U	U	U	U	U	U	–	–
Butane	C	C	C	C	U	U	U	U	U	U	C	C
Butanol - Primary	U	U	U	U	E	G	E	G	G	–	L	U
Butanol - Secondary	U	U	U	U	E	G	E	G	G	–	L	U
Butter	L	L	–	–	–	–	L	L	–	–	–	–
Butyl Acetate	U	U	L	U	U	U	U	U	U	U	L	U
Butyl Alcohol	L	U	L	L	E	G	E	G	E	–	L	U
Butyl Cellosolve	U	U	U	U	G	L	E	G	–	–	–	–
Butyl Phenol	L	U	L	U	U	U	U	U	U	U	–	–
Butylene	C	C	C	C	U	U	U	U	–	–	C	C
Butyric Acid 20%	L	U	L	U	U	U	U	U	U	U	L	U
Calcium Bisulfite	E	E	E	E	E	E	E	E	E	–	E	E
Calcium Carbonate	E	E	E	E	E	E	E	E	E	–	E	E
Calcium Chlorate	E	E	E	E	E	E	E	E	E	–	G	L
Calcium Chloride	E	E	E	E	E	E	E	E	E	–	E	G
Calcium Hydroxide	L	L	L	L	E	E	E	E	E	–	G	L
Calcium Hypochlorite	E	E	E	E	E	E	G	E	G	–	U	U
Calcium Nitrate	E	E	E	E	E	E	E	E	E	–	E	E
Calcium Sulfate	E	E	E	E	E	E	E	E	E	–	E	E
Cane Sugar Liquors	E	E	–	–	G	G	G	G	G	–	–	–
Carbon Bisulfide	U	U	U	U	U	U	U	U	U	U	–	–
Carbon Dioxide (Aqueous Solution)	E	E	E	E	E	E	E	E	E	–	E	E
Carbon Dioxide Gas (Wet)	E	E	E	E	E	E	E	E	E	–	E	E
Carbon Monoxide	E	E	E	E	G	G	G	G	G	–	E	E

Because we continually examine ways to improve our products, we reserve the right to alter specifications or discontinue products without prior notice.

KEY: E = Excellent G = Good L = Limited U = Unsatisfactory C = Cautionary – = No Data

Material Handled	PVC		PVC/PU Blend		Rubber Blend		LLDPE		EVA		TPU	
	Temperature (°F)											
	70	150	70	125	70	150	70	150	70	150	70	150
Carbon Tetrachloride	U	U	L	U	U	U	L	U	U	U	L	U
Carbonic Acid	L	U	G	G	G	G	G	G	G	G	U	U
Casein	E	L	E	E	E	E	E	E	E	–	E	E
Castor Oil	E	E	E	E	U	U	L	U	L	U	E	E
Catsup	E	G	–	–	–	–	–	–	–	–	–	–
Caustic Potash	L	L	L	L	L	L	L	L	L	–	L	U
Caustic Soda	L	L	L	L	G	L	L	L	G	–	L	U
Cellosolve	L	U	G	L	G	L	G	L	L	U	G	L
Chloracetic Acid	E	U	E	U	U	U	G	L	U	U	U	U
Chloral Hydrate	E	E	E	E	U	U	U	U	L	U	G	L
Chloric Acid 20%	E	E	E	E	–	–	–	–	–	–	U	U
Chlorinated Hydrocarbons	U	U	U	U	U	U	U	U	U	U	U	U
Chlorine Gas (Dry)	G	G	G	G	U	U	U	U	U	U	U	U
Chlorine Gas (Moist)	L	U	L	L	U	U	U	U	U	U	U	U
Chlorine Water 2%	G	L	G	L	L	U	G	L	G	L	L	U
Chlorine Water Saturated	L	U	L	U	–	–	E	G	E	L	–	–
Chlorobenzene	U	U	U	U	U	U	U	U	U	U	U	U
Chloroform	U	U	U	U	U	U	L	U	U	U	U	U
Chlorsulfonic Acid	L	U	L	U	U	U	U	U	U	U	U	U
Chrome Alum	E	E	E	E	G	G	E	G	E	G	E	E
Chromic Acid 10%	G	L	G	L	G	L	G	L	G	–	U	U
Chromic Acid 25%	G	L	G	L	G	L	G	L	G	–	U	U
Chromic Acid 30%	L	U	L	U	L	U	L	U	L	U	U	U
Chromic Acid 40%	L	U	L	U	L	U	L	U	L	U	U	U
Chromic Acid 50%	L	U	L	U	L	U	L	U	L	U	U	U
Chromic Acid Plating Solution	–	–	–	–	–	–	–	–	E	E	U	U
Cider	E	L	–	–	–	–	E	G	E	L	–	–
Citric Acid	E	E	E	E	E	E	E	E	E	E	U	U
Coal Tar	U	U	U	U	U	U	U	U	U	U	U	U
Coconut Oil	G	L	E	G	G	L	G	L	L	U	E	E
Copper Chloride	E	E	E	E	E	E	E	E	E	–	E	E
Copper Cyanide	E	E	E	E	E	E	E	E	E	–	–	–
Copper Fluoride 2%	E	E	E	E	E	E	E	E	E	–	E	E
Copper Nitrate	E	G	E	E	E	G	E	G	E	–	E	E
Copper Sulfate	E	G	E	E	E	E	E	E	E	–	E	E
Corn Oils	E	G	–	–	–	–	L	U	–	–	–	–
Cottonseed Oil	G	L	E	E	E	G	E	G	E	–	E	E
Creosote	U	U	U	U	U	U	U	U	U	U	–	–
Cresol	U	U	–	–	U	U	U	U	U	U	L	U
Cresylic Acid 50%	U	U	L	L	U	U	U	U	U	U	U	U
Crude Oil - Sour	L	U	L	U	U	U	U	U	U	U	E	E
Crude Oil - Sweet	L	U	L	U	U	U	U	U	U	U	E	E
Cyclohexane	U	U	U	U	L	U	G	G	L	U	G	L
Cyclohexanol	U	U	U	U	L	U	G	L	E	L	L	U
Cyclohexanone	U	U	U	U	U	U	G	L	E	L	U	U
Demineralized Water	E	E	E	E	E	E	E	E	E	E	E	L
Dextrin	E	E	E	E	E	E	E	E	E	–	E	E
Dextrose	E	G	–	–	E	E	E	E	E	–	E	E
Di-acetone Alcohol	–	–	–	–	–	–	E	G	–	–	–	–
Diazo Salts	E	E	E	E	E	G	E	G	E	–	–	–
Dichlorobenzene	U	U	U	U	–	–	L	U	U	U	–	–
Diesel Oils	L	U	L	U	–	–	–	–	–	–	G	L
Diethyl Ether	U	U	U	U	–	–	G	L	U	U	G	L

Material Handled	PVC		PVC/PU Blend		Rubber Blend		LLDPE		EVA		TPU	
	Temperature (°F)											
	70	150	70	125	70	150	70	150	70	150	70	150
Diethylene Glycol	G	L	G	L	E	L	E	G	G	L	U	U
Diglycolic Acid	E	G	E	E	E	G	E	G	E	–	–	–
Di-isodecyl Phthalate	U	U	–	–	–	–	–	–	–	–	–	–
Dimethylamine	U	U	U	U	U	U	U	U	U	U	U	U
Dioctyl Phthalate	U	U	U	U	–	–	G	L	G	U	–	–
Disodium Phosphate	E	E	E	E	E	E	E	E	E	–	E	E
Distilled Water	E	E	E	E	E	E	E	E	E	E	E	L
Ethers	U	U	L	U	U	U	G	L	U	U	G	L
Ethyl Acetate	U	U	L	U	L	U	E	G	L	U	L	U
Ethyl Acrylate	U	U	U	U	–	–	–	–	–	–	–	–
Ethyl Alcohol 0-50%	G	L	E	G	G	L	E	E	G	L	G	L
Ethyl Alcohol 50-98%	L	U	G	L	L	U	E	G	L	U	E	G
Ethyl Chloride	U	U	U	U	U	U	U	U	U	U	U	U
Ethyl Ether	U	U	U	U	U	U	U	U	U	U	G	L
Ethylene Bromide	E	U	U	U	U	U	U	U	U	U	U	U
Ethylene Dichloride	U	U	U	U	U	U	U	U	U	U	U	U
Ethylene Glycol	E	E	E	E	E	G	E	G	E	G	G	L
Ethylene Oxide	U	U	U	U	U	U	U	U	U	U	U	U
Fatty Acids	E	E	E	E	G	L	G	L	L	U	G	L
Ferric Chloride	E	E	E	E	E	E	E	E	E	–	E	E
Ferric Nitrate	E	E	E	E	E	E	E	E	E	–	E	E
Ferric Sulfate	E	E	E	E	E	E	E	E	E	–	E	E
Ferrous Chloride	E	E	E	E	E	E	E	E	E	–	E	E
Ferrous Sulfate	E	E	E	E	E	E	E	E	E	–	E	E
Fish Solubles	E	E	E	U	E	E	E	E	E	–	E	G
Fluorine Gas - Dry	U	U	U	U	U	U	U	U	U	U	U	U
Fluorine Gas - Wet	U	U	U	U	U	U	U	U	U	U	U	U
Fluoroboric Acid	E	E	E	E	E	E	E	G	E	–	E	E
Fluorosilicic Acid	E	E	E	E	G	L	G	L	G	–	U	U
Folic Acid	E	L	E	L	E	G	E	G	E	E	U	U
Glycolic Acid 30%	E	E	E	E	E	E	E	E	E	–	U	U
Grease	E	L	E	G	–	–	–	–	–	–	E	G
Green Liquor (Paper industry)	E	E	E	E	E	E	E	E	E	–	–	–
Heptane	L	U	G	U	U	U	U	U	U	U	E	–
Hexadecanol	–	–	–	–	–	–	–	U	U	U	–	–
Hexane	L	U	L	U	G	L	E	E	–	–	–	–
Hexanol, Tertiary	L	U	L	U	G	L	G	L	L	U	G	–
Hydrobromic Acid 20%	E	G	E	G	G	G	G	G	G	–	U	U
Hydrochloric Acid 10%	E	G	E	G	E	E	E	E	E	E	U	U
Hydrochloric Acid 48%	E	G	E	G	E	G	E	G	G	–	U	U
Hydrofluoric Acid 4%	G	G	G	G	G	G	G	G	E	E	U	U
Hydrofluoric Acid 10%	G	L	G	L	G	G	G	G	E	E	U	U
Hydrofluoric Acid 48%	G	U	G	L	G	L	G	L	E	E	U	U
Hydrofluoric Acid 60%	G	U	G	U	G	L	G	L	E	E	U	U
Hydrofluorosilic Acid	G	L	G	L	–	–	–	–	–	–	U	U
Hydrogen	C	C	C	C	C	C	C	C	C	–	C	C
Hydrogen Bromide (Dry)	–	–	–	–	–	–	–	–	E	E	–	–
Hydrogen Chloride (Dry)	–	–	–	–	–	–	–	–	E	E	–	–
Hydrogen Cyanide	C	C	C	C	C	C	C	C	C	C	U	U
Hydrogen Peroxide 3 -12%	E	G	E	G	G	L	G	L	G	L	G	L
Hydrogen Peroxide 30%	E	G	E	G	G	L	G	L	G	L	G	L
Hydrogen Peroxide 50%	E	L	E	L	L	U	L	U	U	U	L	U
Hydrogen Peroxide 90%	U	U	U	U	U	U	U	U	U	U	U	U

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Material Handled	PVC		PVC/PU Blend		Rubber Blend		LLDPE		EVA		TPU	
	Temperature (°F)											
	70	150	70	125	70	150	70	150	70	150	70	150
Hydrogen Phosphide	E	L	E	L	G	G	G	G	E	E	–	–
Hydrogen Sulfide (Aqueous Solution)	E	E	E	E	E	G	E	G	E	–	–	–
Hydrogen Sulfide - Dry	E	E	E	E	E	G	E	G	E	–	–	–
Hydrombromic Acid 20%	E	G	E	G	G	G	G	G	G	–	U	U
Hydroquinone	E	E	E	E	E	E	E	E	E	–	E	E
Hypochlorous Acid	E	E	E	E	E	G	E	G	L	U	L	U
Inks	–	–	–	–	–	–	E	E	E	E	–	–
Iodine (In Alcohol)	U	U	U	U	U	U	U	U	U	U	U	U
Iso-octane	L	U	L	U	–	–	–	–	–	–	–	–
Isopropyl Acetate	U	U	–	–	–	–	–	–	–	–	–	–
Isopropylalcohol	E	G	E	G	E	E	E	E	E	–	–	–
Jelly	E	E	–	–	–	–	–	–	–	–	–	–
Jet Fuels JP 3, 4, 5	U	U	U	U	U	U	–	–	–	–	G	L
Kerosene	U	U	L	U	U	U	L	U	U	U	E	G
Ketones	U	U	U	U	L	U	E	G	L	U	G	L
Kraft Liquor (Paper industry)	E	E	E	E	E	G	E	G	G	–	–	–
Lacquer Thinners	U	U	U	U	G	L	E	G	L	U	G	–
Lactic Acid 28%	E	E	E	E	E	E	E	E	E	–	L	U
Lard Oil	E	G	E	E	G	L	G	L	G	L	E	G
Lauric Acid	E	E	E	E	–	–	L	U	–	–	L	U
Lauryl Chloride	E	E	E	E	L	U	L	U	L	–	E	G
Lauryl Sulfate	E	E	E	E	U	U	U	U	U	U	–	–
Lead Acetate	E	E	E	E	E	E	E	E	E	–	E	E
Lead Arsenate	E	E	E	E	–	–	–	–	E	E	–	–
Lead Nitrate	E	E	E	E	–	–	–	–	E	E	–	–
Lead Tetra-ethyl	E	E	E	E	–	–	–	–	E	E	–	–
Lemon Juice	E	G	–	–	–	–	–	–	–	–	–	–
Lime Sulfur	E	E	E	E	G	G	G	G	G	–	–	–
Linoleic Acid	E	E	E	E	–	–	–	–	–	–	L	U
Linseed Oil	E	E	E	E	U	U	L	U	L	U	E	E
Liquors (Chemical)	E	G	E	G	–	–	E	G	E	G	–	–
Lubricating Oils	G	L	G	G	U	U	U	U	U	U	E	E
Magnesium Carbonate	E	E	E	E	E	E	E	E	E	–	E	E
Magnesium Chloride	E	E	E	E	E	E	E	E	E	–	E	E
Magnesium Hydroxide	L	L	L	L	E	E	E	E	E	–	G	L
Magnesium Nitrate	E	E	E	E	E	E	E	E	E	–	E	E
Magnesium Sulfate	E	E	E	E	E	E	E	E	E	–	E	E
Maleic Acid 25% Aqueous	E	E	E	E	G	G	G	G	E	E	L	U
Maleic Acid 50%	–	–	–	–	–	–	E	E	E	E	–	–
Maleic Acid Concentrated	–	–	–	–	–	–	E	G	E	G	–	–
Malic Acid	E	E	E	E	G	G	G	G	G	–	L	U
Mayonnaise	E	E	–	–	–	–	–	–	–	–	–	–
Mercuric Chloride	G	L	G	G	G	G	G	G	G	G	G	L
Mercuric Cyanide	U	U	U	U	G	G	G	G	G	G	–	–
Mercurous Nitrate	G	G	G	G	G	G	G	G	G	–	G	G
Mercury	G	G	G	G	G	G	G	G	G	L	–	–
Methyl Acetate	U	U	U	U	–	–	–	–	U	U	–	–
Methyl Alcohol	L	U	L	U	G	G	E	G	E	–	L	U
Methyl Bromide	U	U	U	U	–	–	–	–	U	U	–	–
Methyl Chloride	U	U	U	U	U	U	U	U	U	U	U	U
Methyl Ethyl Ketone	U	U	U	U	L	U	E	G	L	U	L	U
Methyl Isobutyl Ketone	U	U	U	U	L	U	E	G	L	U	–	–

Material Handled	PVC		PVC/PU Blend		Rubber Blend		LLDPE		EVA		TPU	
	Temperature (°F)											
	70	150	70	125	70	150	70	150	70	150	70	150
Methyl Sulfate	E	G	E	G	–	–	–	–	–	–	E	G
Methyl Sulfuric Acid	E	E	E	E	G	G	G	G	E	E	U	U
Methylated Spirit	–	–	–	–	–	–	–	–	E	G	–	–
Methylene Chloride	U	U	L	U	U	U	U	U	U	U	U	U
Milk	E	E	–	–	–	–	E	E	G	L	–	–
Mineral Oils	G	L	E	E	L	U	L	U	L	U	E	E
Mineral Spirits	–	–	–	–	–	–	E	G	–	–	–	–
Molasses	E	E	E	E	E	E	E	E	E	–	E	E
Monochlorobenzene	U	U	U	U	–	–	–	–	–	–	–	–
Naphtha	U	U	L	U	U	U	G	L	U	U	G	U
Napthalene	U	U	U	U	L	U	L	U	U	U	–	–
Nickel Acetate	E	E	E	E	E	E	E	E	E	–	E	E
Nickel Chloride	E	E	E	E	E	E	E	E	E	–	E	E
Nickel Nitrate	E	E	E	E	E	E	E	E	E	–	E	E
Nickel Sulphate	E	E	E	E	E	E	E	E	E	–	E	E
Nicotine	E	E	E	E	E	E	E	E	E	–	C	C
Nicotine Acid	E	G	E	E	E	E	E	E	E	–	C	C
Nitric Acid (Anhydrous)	U	U	U	U	U	U	U	U	U	U	U	U
Nitric Acid 10%	E	G	G	L	G	L	G	G	G	G	U	U
Nitric Acid 25%	G	L	G	L	G	L	G	G	G	L	U	U
Nitric Acid 35%	G	L	G	L	L	U	G	U	L	U	U	U
Nitric Acid 40%	G	L	G	L	L	U	L	U	L	U	U	U
Nitric Acid 50%	G	U	G	U	L	U	L	U	L	U	U	U
Nitric Acid 60%	G	U	G	U	U	U	L	U	U	U	U	U
Nitric Acid 68%	L	U	L	U	U	U	U	U	U	U	U	U
Nitric Acid 70%	U	U	U	U	U	U	U	U	U	U	U	U
Nitrobenzene	U	U	U	U	U	U	U	U	U	U	U	U
Nitrous Oxide	E	E	E	E	–	–	–	–	–	–	E	E
Oils and Fats	E	G	E	E	G	L	G	L	G	U	E	E
Oils, Petroleum	E	G	E	E	G	L	G	L	G	U	E	E
Oleic Acid	G	L	G	L	L	U	L	U	U	U	U	U
Oleum	U	U	U	U	U	U	U	U	U	U	U	U
Orange Juice	E	E	–	–	–	–	G	L	–	–	–	–
Oxalic Acid	E	G	E	G	G	G	E	G	G	G	U	U
Oxygen	E	G	E	G	G	–	G	L	G	L	E	E
Ozone	L	U	L	U	U	U	L	U	U	U	–	–
Palmitic Acid 10%	E	E	E	E	G	L	G	L	E	G	U	U
Palmitic Acid 70%	L	U	L	U	G	U	G	U	L	U	U	U
Paraffin	E	G	E	G	–	–	G	L	L	U	E	G
Pentane	L	U	L	U	–	–	E	G	–	–	–	–
Peracetic Acid 40%	U	U	U	U	–	–	–	–	–	–	U	U
Perchlorethylene	U	U	U	U	U	U	–	–	–	–	–	–
Perchloric Acid 10%	G	L	G	L	G	G	G	G	G	G	U	U
Perchloric Acid 70%	L	U	L	U	G	L	G	L	G	–	U	U
Petrol	U	U	U	U	U	U	–	–	U	U	–	–
Petroleum Ether	L	L	L	L	–	–	–	–	U	U	–	–
Phenol	U	U	U	U	U	U	U	U	U	U	U	U
Phenylhydrazine	U	U	U	U	L	U	L	U	–	–	–	–
Phenylhydrazine Hydrochloride	L	U	L	U	L	U	L	U	–	–	–	–
Phosgene (Gas)	C	C	C	C	–	–	–	–	C	U	–	–
Phosgene (Liquid)	U	U	–	–	–	–	–	–	–	–	–	–
Phosphoric Acid 0-25%	E	G	E	G	E	G	E	G	E	G	U	U
Phosphoric Acid 25-50%	E	G	E	G	E	G	E	G	E	G	U	U

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KEY: E = Excellent G = Good L = Limited U = Unsatisfactory C = Cautionary – = No Data

Material Handled	PVC		PVC/PU Blend		Rubber Blend		LLDPE		EVA		TPU	
	Temperature (°F)											
	70	150	70	125	70	150	70	150	70	150	70	150
Phosphoric Acid 50-90%	E	G	E	G	G	L	G	L	E	L	U	U
Phosphorus (Yellow)	G	L	G	L	L	L	L	L	U	U	–	–
Phosphorus Pentoxide	L	U	L	U	L	L	G	L	G	L	–	–
Phosphorus Trichloride	U	U	U	U	L	U	L	U	L	U	–	–
Photographic Developers	L	U	L	U	–	–	E	E	E	E	L	–
Photographic Emulsions	L	U	L	U	–	–	E	E	E	E	–	–
Photographic Fixers	L	U	L	U	–	–	E	E	E	E	–	–
Picric Acid	U	U	U	U	G	U	G	U	G	L	U	U
Pitch	G	L	G	L	–	–	E	G	–	–	–	–
Plating Solutions												
Brass	E	E	E	E	G	G	G	G	L	–	E	E
Cadmium	E	E	E	E	G	G	G	G	L	–	E	E
Chromium	G	G	G	G	U	U	U	U	U	U	G	G
Copper	E	E	E	E	G	G	G	G	L	–	E	E
Gold	E	E	E	E	G	G	G	G	L	–	E	E
Judium	E	E	E	E	G	G	G	G	L	–	E	E
Lead	E	E	E	E	G	G	G	G	L	–	E	E
Nickel	E	E	E	E	G	G	G	G	L	–	E	E
Rhodium	E	E	E	E	G	G	G	G	L	–	E	E
Silver	E	E	E	E	G	G	G	G	L	–	E	E
Tin	E	E	E	E	G	G	G	G	L	–	E	E
Zinc	E	G	E	E	G	G	G	G	L	–	E	E
Potable Water	E	G	–	–	–	–	E	E	E	G	–	–
Potassium Acid Sulfate	E	E	E	E	E	G	E	G	G	–	E	E
Potassium Antimonate	E	E	E	E	E	E	E	E	E	–	E	E
Potassium Bicarbonate	E	E	E	E	E	E	E	E	E	–	E	E
Potassium Bichromate	E	E	E	E	E	E	E	E	E	–	E	E
Potassium Bisulfite	E	E	E	E	E	E	E	E	E	–	E	E
Potassium Bisulphate	G	L	–	–	–	–	E	E	E	–	–	–
Potassium Borate 1%	E	E	E	E	E	E	E	E	E	–	E	E
Potassium Bromate 10%	E	E	E	E	E	G	E	G	E	–	E	E
Potassium Bromide	E	E	E	E	E	G	E	G	E	–	E	E
Potassium Carbonate	E	E	E	E	E	E	E	E	E	–	E	E
Potassium Chlorate	E	E	E	E	E	E	E	E	E	–	G	G
Potassium Chloride	E	E	E	E	E	E	E	E	E	–	E	G
Potassium Chromate 40%	E	E	E	E	E	E	E	E	E	–	G	G
Potassium Cuprocyanide	E	E	E	E	E	E	E	E	E	–	–	–
Potassium Cyanide	C	C	C	C	C	C	C	C	C	C	C	C
Potassium Dichromate 40%	E	E	E	E	E	E	E	E	E	–	G	G
Potassium Ferricyanide	E	E	E	E	E	E	E	E	E	–	E	E
Potassium Fluoride	E	E	E	E	E	E	E	E	E	–	E	G
Potassium Hydroxide 10%	L	L	L	L	E	E	E	E	E	–	L	U
Potassium Hydroxide 20%	L	L	L	L	E	E	E	E	E	–	U	U
Potassium Hydroxide 35%	U	U	U	U	G	L	E	G	G	–	U	U
Potassium Hydroxide Conc.	U	U	U	U	–	–	–	–	E	L	–	–
Potassium Hypochlorite	G	L	G	L	G	G	G	L	E	–	U	U
Potassium Nitrate	E	E	E	E	G	G	G	G	E	E	E	E
Potassium Perborate	E	E	E	E	G	L	G	L	E	E	E	E
Potassium Perchlorite	E	E	E	E	G	G	G	G	G	–	G	L
Potassium Permanganate 10%	G	G	E	E	E	E	E	E	U	U	G	L
Potassium Persulfate	E	E	E	E	E	E	E	E	E	–	E	E
Potassium Phosphate	–	–	–	–	–	–	–	–	E	E	–	–
Potassium Sulfate	E	E	E	E	E	E	E	E	E	–	E	E

Material Handled	PVC		PVC/PU Blend		Rubber Blend		LLDPE		EVA		TPU	
	Temperature (°F)											
	70	150	70	125	70	150	70	150	70	150	70	150
Potassium Sulfide	E	E	E	E	E	E	E	E	E	–	E	E
Potassium Thiosulfate	E	E	E	E	E	E	E	E	E	–	E	E
Power Steering Fluid	E	L	E	L	–	–	–	–	–	–	E	E
Propane	C	C	C	C	U	U	U	U	U	U	C	C
Propargyl Alcohol	E	E	E	E	G	G	G	G	E	E	–	–
Propyl Alcohol	E	L	E	E	E	E	E	E	E	–	G	L
Propylene Dichloride	U	U	U	U	U	U	U	U	U	U	U	U
Propylene Glycol	–	–	–	–	–	–	–	–	E	E	–	–
Prune Juice	E	E	–	–	–	–	–	–	–	–	–	–
Ritchfield "A" Weed Killer	E	L	E	G	–	–	–	–	–	–	–	–
Salicylic Acid	–	–	–	–	–	–	–	–	E	E	–	–
Salt Water	E	E	E	E	E	E	E	E	E	E	E	L
Selenic Acid	E	G	E	G	G	L	G	L	G	L	U	U
Shortening	G	L	–	–	–	–	E	E	E	E	–	–
Silicic Acid	E	E	E	E	E	E	E	E	E	–	U	U
Silicone Fluids	–	–	–	–	–	–	–	–	E	E	–	–
Silver Cyanide	E	E	E	E	E	E	E	E	E	–	E	E
Silver Nitrate	E	E	E	E	E	E	E	E	E	–	E	E
Silver Plating Solutions	E	G	E	G	E	G	E	G	E	–	E	E
Soap Solution	E	G	E	G	E	G	G	L	G	L	G	U
Sodium Acetate	E	E	E	E	E	E	E	E	E	–	E	E
Sodium Acid Sulfate	E	E	E	E	E	E	E	E	E	–	E	E
Sodium Antimonate	E	E	E	E	E	E	E	E	E	–	E	E
Sodium Arsenite	E	E	E	E	E	E	E	E	E	–	E	E
Sodium Benzoate	E	G	E	E	E	E	E	E	E	–	E	E
Sodium Bicarbonate	E	E	E	E	E	E	E	E	E	–	E	E
Sodium Bisulfate	E	E	E	E	E	E	E	E	E	–	E	E
Sodium Bisulfite	E	E	E	E	E	E	E	E	E	–	E	E
Sodium Bromide	E	E	E	E	E	E	E	E	E	–	E	G
Sodium Carbonate (Soda Ash)	E	E	E	E	E	E	E	E	E	–	E	E
Sodium Chlorate	G	L	G	L	E	E	E	E	E	–	G	G
Sodium Chloride	E	E	E	E	E	E	E	E	E	–	E	G
Sodium Cyanide	E	E	E	E	E	E	E	E	E	–	E	E
Sodium Dichromate	E	G	E	G	E	E	E	E	E	–	E	G
Sodium Ferricyanide	E	E	E	E	E	E	E	E	E	–	E	G
Sodium Ferrocyanide	E	E	E	E	E	E	E	E	E	–	E	E
Sodium Fluoride	E	E	E	E	E	E	E	E	E	–	E	G
Sodium Hydroxide 10%	L	L	L	L	E	E	E	E	E	–	G	L
Sodium Hydroxide 35%	U	U	U	U	E	E	E	E	E	–	L	U
Sodium Hydroxide 50%	U	U	U	U	–	–	–	–	–	–	–	–
Sodium Hypochlorite	E	E	E	E	E	E	E	E	E	–	U	U
Sodium Nitrate	E	E	E	E	E	E	E	E	E	–	E	E
Sodium Nitrite	E	E	E	E	E	E	E	E	E	–	E	E
Sodium Phosphate-Acid	G	G	G	G	E	E	E	E	E	–	U	U
Sodium Silicate	E	E	E	E	E	E	E	E	E	–	E	E
Sodium Sulfate	E	E	E	E	E	E	E	E	E	–	E	E
Sodium Sulfide	E	E	E	E	E	E	E	E	E	–	E	E
Sodium Sulfite	E	E	E	E	E	E	E	E	E	–	E	E
Sodium Thisulfate (Hypo)	E	E	E	E	E	E	E	E	E	–	E	G
Soft Drinks	E	G	–	–	–	–	E	E	G	L	–	–
Soya Oil	E	G	–	–	–	–	–	–	–	–	–	–
Soybean Oil	G	L	–	–	–	–	–	–	–	–	–	–
Stannic Chloride	E	E	E	E	E	E	E	E	E	–	E	G

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Material Handled	PVC		PVC/PU Blend		Rubber Blend		LLDPE		EVA		TPU	
	Temperature (°F)											
	70	150	70	125	70	150	70	150	70	150	70	150
Stannous Chloride	E	G	E	G	E	E	E	E	E	–	E	G
Starch	–	–	–	–	–	–	–	–	E	E	–	–
Stearic Acid	L	L	L	L	E	E	E	E	E	–	L	U
Stoddard Solvent	L	U	G	L	G	L	G	L	L	U	G	U
Styrene	U	U	U	U	–	–	–	–	–	–	–	–
Sucrose	–	–	–	–	–	–	–	–	E	E	–	–
Sulfur	G	G	G	G	E	E	E	E	E	–	–	–
Sulfuric Acid 0-10%	E	G	E	G	E	G	E	G	G	–	U	U
Sulfuric Acid 10-40%	E	G	E	G	G	G	G	G	G	G	U	U
Sulfuric Acid 50-60%	E	G	E	G	G	L	G	L	G	L	U	U
Sulfuric Acid 70%	E	G	E	G	L	U	L	U	L	U	U	U
Sulfuric Acid 95%	U	U	U	U	U	U	U	U	U	U	U	U
Sulfuric Acid 95% to Fuming	L	L	L	L	U	U	U	U	U	U	U	U
Sulfurous Acid	E	E	E	E	G	L	G	L	L	U	U	U
Sulphur Dioxide - Liquid	L	U	L	U	U	U	U	U	U	U	–	–
Sulphur Dioxide Gas - Dry	E	E	E	E	G	G	G	G	E	G	–	–
Sulphur Dioxide Gas - Wet	L	U	L	U	G	L	G	L	E	L	–	–
Sulphur Trioxide	E	G	E	G	U	U	U	U	U	U	–	–
Sulphurous Acid 10%	–	–	–	–	–	–	–	–	E	E	–	–
Sulphurous Acid 30%	–	–	–	–	–	–	–	–	U	U	–	–
Tallow	–	–	–	–	–	–	–	–	E	U	–	–
Tannic Acid	E	E	E	E	E	E	E	E	E	E	L	U
Tanning Extracts	–	–	–	–	–	–	–	–	E	E	–	–
Tanning Liquors	E	E	E	E	G	L	G	L	L	–	–	–
Tartaric Acid	E	E	E	E	E	E	E	E	E	–	L	U
Tea (Brewed)	E	G	–	–	–	–	E	G	G	L	–	–
Tetraethyl Lead	G	L	G	G	–	–	–	–	–	–	G	G
Tetrahydrofurane	U	U	U	U	U	U	U	U	U	U	U	U
Thionyl Chloride	U	U	U	U	U	U	U	U	U	U	U	U
Tin Chloride	E	E	E	E	–	–	–	–	–	–	E	E
Titanium Tertachloride	E	U	E	U	–	–	–	–	–	–	L	U
Titanium Trichloride	–	–	–	–	–	–	–	–	U	U	–	–
Toluol or Toluene	U	U	L	U	U	U	E	G	U	U	L	U
Tomato Juice	E	E	–	–	–	–	G	L	L	U	–	–
Transformer Oil	–	–	–	–	–	–	–	–	U	U	–	–
Transmission Fluid	E	L	E	L	–	–	–	–	–	–	E	E
Tributyl Phosphate	U	U	U	U	–	–	–	–	–	–	–	–
Trichlorobenzene	U	U	U	U	–	–	–	–	U	U	–	–
Trichloroethylene	U	U	L	U	U	U	G	L	U	U	L	U
Tricresyl Phosphate	U	U	U	U	L	L	L	L	U	U	U	U
Triethanolamine	L	U	G	U	G	L	G	L	L	–	–	–
Triethylamine	G	L	G	L	–	–	–	–	–	–	–	–
Trimethyl Propane	L	U	L	U	–	–	–	–	–	–	–	–
Trisodium Phosphate	E	E	E	E	E	E	E	E	E	–	E	E
Turpentine	L	U	G	L	L	U	G	L	U	–	E	G
Urea	E	E	E	E	E	E	E	E	E	–	E	E
Urine	E	E	E	E	E	E	E	E	E	–	E	E
Varnish	U	U	U	U	G	L	G	L	U	U	E	G
Varsol	–	–	–	–	–	–	E	G	–	–	–	–
Vegetable Oils	G	L	G	L	–	–	–	–	U	U	–	–
Vinegar	E	E	–	–	E	G	E	G	E	–	G	L
Vinyl Acetate	U	U	U	U	L	U	L	U	U	U	U	U

Material Handled	PVC		PVC/PU Blend		Rubber Blend		LLDPE		EVA		TPU	
	Temperature (°F)											
	70	150	70	125	70	150	70	150	70	150	70	150
Vinyl Chloride	U	U	U	U	–	–	–	–	–	–	–	–
Water-Acid Mine Water	E	E	E	E	E	E	E	E	E	–	G	U
Water-Distilled	E	E	E	E	E	E	E	E	E	–	G	U
Water-Fresh	E	E	E	E	E	E	E	E	E	–	G	U
Water-Salt	E	E	E	E	E	E	E	E	E	–	G	U
Whey	E	G	–	–	–	–	G	L	G	L	–	–
Whiskey	L	U	–	–	–	–	E	L	–	–	–	–
White Gasoline	E	E	E	E	U	U	U	U	U	U	E	G
White Liquor (Paper industry)	E	E	E	E	–	–	–	–	–	–	–	–
Wines	G	L	–	–	–	–	E	E	–	–	–	–
Xylene or Xylol	U	U	L	U	U	U	G	L	U	U	G	L
Zinc Chloride	E	E	E	E	E	E	E	E	E	–	E	E
Zinc Chromate	E	E	E	E	E	E	E	E	E	–	E	E
Zinc Cyanide	E	E	E	E	E	E	E	E	E	–	E	E
Zinc Nitrate	E	E	E	E	E	E	E	E	E	–	E	E
Zinc Sulfate	E	E	E	E	E	E	E	E	E	–	E	E
Mixtures of Acids:												
Nitric 15%, Hydrofluoric 4%	E	G	E	G	–	–	–	–	–	–	U	U
Sodium Dichromate 13%, Nitric Acid 16%, Water	E	G	E	G	E	E	E	E	E	E	E	L