

Chemical Resistance Chart

Ratings – Chemical Behavior

A-No effect B-Minor effect C-Moderate effect D-Severe effect (*not recommended*) “-” No data available

Chemical	Plastics				Metals				Chemical	Plastics				Metals					
	Nylon	Polypropylene	PTFE (Teflon®)	PVC	304 Stainless Steel	316 Stainless Steel	Aluminum	Cast Iron		Hastelloy-C®	Nylon	Polypropylene	PTFE (Teflon®)	PVC	304 Stainless Steel	316 Stainless Steel	Aluminum	Cast Iron	Hastelloy-C®
Acetaldehyde	A	A1	A	D	A	A	B	C	A	Ammonium Phosphate, Tribasic	B	A	A	A	B	B	B	D	B
Acetamide	A	A1	A	D	B	A	A	D	-	Ammonium Sulfate	A1	A	A	A2	B	B	A1	D	B
Acetate Solvent	A	B1	A	D	A	A	A	D	A	Ammonium Sulfite	A2	A2	A2	A2	B	B	D	D	-
Acetic Acid	D	B	A	D	D	B	B	D	A	Ammonium Thiosulfate	-	-	-	-	A	-	-	-	-
Acetic Acid 20%	D	A	A	D	B	A	B	D	A	Amyl Acetate	B2	B1	A	D	A1	A	A	C	A
Acetic Acid 80%	D	A	A	C	D	B	B	D	A	Amyl Alcohol	A1	B1	A	A2	A	A	B	B	A
Acetic Acid, Glacial	B	A1	A	D	C	A	B	D	A	Amyl Chloride	C1	D	A	D	A2	A2	A1	A	A1
Acetic Anhydride	A1	B1	A	D	B	A	A1	D	A	Aniline	A2	A1	A	C1	A	B	C	C	B
Acetone	A	A	A	D	A	A	A	A	A	Aniline Hydrochloride	D	D	A	B2	D	D	D	D	D
Acetyl Bromide	D	-	A	D	-	-	-	-	-	Antifreeze	D	D	-	A	-	A	A	A	-
Acetyl Chloride (dry)	B	D	A	C	A	A	D	B	A	Antimony Trichloride	D	A	A	A2	D	D	D	-	-
Acetylene	A	A1	A	A1	A	A	A	A	-	Aqua Regia (80%-HCL, 20%-HMO ₃)	D	B1	A	C1	D	D	D	D	C
Acrylonitrile	A1	A1	A	B1	A1	A1	B1	A1	B	Arochlor 1248	A1	D	A	-	B	B	A	B	A
Adipic Acid	-	B2	A	A2	A1	A2	A	A	-	Aromatic Hydrocarbons	-	D	-	D	-	C	A	A	-
Alcohols: Amyl	A1	B1	A	A2	A	A	B	B	A	Arsenic Acid	C1	A	A	A1	A2	A2	D	D	B
Benzyl	B1	A	A	D	B	B	B	B	A	Arsenic Salts	A	-	-	A	-	-	-	-	-
Butyl	D	A	A	A2	A	A	B	B	A	Asphalt	A	B1	A1	A2	B	A	A	A	-
Diacetone	A	B2	A	B1	A	A	A1	A	A	Barium Carbonate	A1	A	A	A2	B1	B	D	A	B1
Ethyl	A1	A	A	C	A	A	B	B	A	Barium Chloride	A	A	A	A1	A1	A1	D	C	B
Hexyl	A	-	A	A2	A	A	A	A	A	Barium Cyanide	A1	D	A1	D	A1	A2	C1	C1	A
Isobutyl	A1	A1	A2	A1	A	A	B	C	A	Barium Hydroxide	A1	B	A	A2	B1	B	D	D	B
Isopropyl	D	A2	A2	A1	B	B	B	A	A	Barium Nitrate	A1	A	A1	A	B1	B	B	A	-
Methyl	B1	A2	A	A1	A	A	A1	A	A	Barium Sulfate	A1	B1	A	B1	B1	B	B	A	-
Octyl	A	-	-	-	A	A	A	A	C	Barium Sulfide	A1	B	A	A2	B1	B2	D	D	-
Propyl	D	A	A	A1	A	A	A	A	A	Beer	A1	A1	A	A2	A	A	A	D	A1
Aluminum Chloride	B1	A	A	A2	B	B	D	D	A	Beet Sugar Liquids	A	A1	A1	A2	A	A	A	A	-
Aluminum Chloride 20%	D	A	A	A1	D	C1	D	D	A	Benzaldehyde	A1	D	A1	D	B	B	B	A	A
Aluminum Flouride	A1	A	A	A2	D	D	B1	D	B	Benzene	A1	D	A	C1	B	B	B	A	B
Aluminum Hydroxide	A1	A	A	A2	A1	C1	B1	A	B	Benzene Sulfonic Acid	D	D	A	A	B	B	D	-	B
Aluminum Nitrate	A1	A2	A	B2	A	A	D	-	-	Benzoic Acid	D	B1	A2	A	B	B	B	D	B1
Aluminum Potassium Sulfate 10%	D	A	A	A2	A	A	C	D	C	Benzol	D	B	A	-	A1	A1	B1	A	B
Aluminum Potassium Sulfate 100%	D	A	A	A2	D	B2	C	D	C	Benzonitrile	-	-	A2	-	D	D	-	-	C
Aluminum Sulfate	A2	A	A	A2	B	B2	B1	D	B	Benzyle Chloride	A2	C1	-	-	C1	B1	D	-	C
Alums	A	A	A	-	-	A	A	D	B	Bleaching Liquors	C	A1	A	A1	-	-	-	-	-
Amines	D	B2	A2	D	A	A	B	D	B	Borax (Sodium Borate)	A	B	A	A1	A	A	B1	A	B
Ammonia 10%	A	A2	A	B1	A	A	A2	A	A	Boric Acid	B	A	A	A2	B2	A1	D	D	A
Ammonia Nitrate	D	A	A	B	A	A	C	A	-	Brewery Slop	-	-	-	-	A	-	A	-	-
Ammonia, Anhydrous	A1	A	A	A2	A	A2	A1	A	B	Bromine	D	D	A	C1	D	D	D	-	A
Ammonia, Liquid	B1	A2	A	A1	B2	A2	A	A	B	Butadiene	C1	C	A2	C1	A	A1	A	-	C
Ammonium Acetate	A	A	A	A	B	A	A	-	-	Butane	A2	A1	A	C1	A2	A2	A	-	A
Ammonium Bifluoride	-	A	A	A2	D	B1	B	D	B	Butanol (Butyl Alcohol)	B1	A1	A2	C1	A	A1	B	-	B
Ammonium Carbonate	A1	A	A	A2	B	B	B	B	B	Butter	-	-	A	-	C	A	A	D	-
Ammonium Caseinate	-	-	-	-	-	A	-	-	-	Buttermilk	B1	A1	A	A1	A	A	A	D	A
Ammonium Chloride	B	A	A	A2	C	B2	B1	D	D	Butyl Amine	A2	B1	A2	D	-	A	A2	-	B2
Ammonium Hydroxide	A	A	A	A	A1	A1	B2	D	B	Butyl Ether	A2	D	A1	A2	-	A1	A1	-	-
Ammonium Nitrate	A1	A	A	A2	A1	A	B1	B	B	Butyl Phthalate	A1	B2	A2	-	B1	B2	B2	-	B2
Ammonium Oxalate	-	A	-	A	A	A	-	D	A	Butylacetate	A	B1	A	D	B	A	A	A	A
Ammonium Persulfate	D	A	A1	A2	A	B	D	D	B	Butylene	B1	-	A	A1	A	A	A	-	-
Ammonium Phosphate, Dibasic	C1	A	A2	A2	B	C	B1	D	B	Butyric Acid	C1	B1	A2	B1	B2	B2	B	D	A1
Ammonium Phosphate, Monobasic	B	A	A	A	B	C	B	D	B	Calcium Bisulfate	-	-	-	-	-	A	-	D	-

Footnotes:

- 1. Satisfactory to 72°F (22°C)
- 2. Satisfactory to 120°F (48°C)

Warning:

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Calcium Bisulfide	A	A	A	A2	B	B	C	-	A	Copper Sulfate 5%	D	A	A	A2	B	B	D	D	A
Calcium Bisulfite	A2	A	A	B	B	A	D	-	B	Copper Sulfate >5%	D	A	A	A2	B	B	D	D	A
Calcium Carbonate	A	A	A	A2	A1	B	D	-	B	Cream	A	A	A	-	A	A	A	D	-
Calcium Chlorate	-	-	A	B2	-	-	-	-	-	Cresols	D	D	-	D	A2	A	A	C	B2
Calcium Chloride	A1	A2	A	C	C2	B2	D	C	A	Cresylic Acid	D	A1	A	D	A1	A	B2	A	B1
Calcium Hydroxide	A2	A2	A	B	B1	B	C1	A	A	Cupric Acid	D	A2	A	A2	D	B2	D	-	A1
Calcium Hypochlorite	D	A1	A	B1	C1	B1	D	D	B	Cyanic Acid	-	-	A	-	A	A	-	D	-
Calcium Nitrate	A1	A2	A2	A2	C1	B2	B1	B	B2	Cyclohexane	A	D	A	D	A1	A	A	B	B
Calcium Oxide	B	A	A	B	A	A	C	-	A	Cyclohexanone	A	D	A	D	A1	A2	A	B	A1
Calcium Sulfate	D	A	A	B2	B	B	C	A	B	Detergents	A1	A	A	A	A1	A1	B	-	B
Calgon	A	A	-	-	A	A	-	D	-	Diacetone Alcohol	A1	A1	A	D	B1	B	A1	-	-
Cane Juice	A	C1	A	A1	A	A	B	A	-	Dichlorobenzene	D	C1	A	D	-	B1	B1	-	A1
Carbolic Acid	D	B	A	D	B	B	A	D	A	Dichloroethane	A1	D	A1	D	B	B	B1	-	A
Carbon Bisulfide	A	D	-	D	A	B	B	-	-	Diesel Fuel	A	A1	A	A1	A1	A1	A1	A	B
Carbon Dioxide	A1	D	A	A1	A	A1	B	D	A	Diethyl Ether	A1	A1	A	D	B1	B2	B	-	B1
Carbon Dioxide (dry)	A1	A2	A	A2	A	A1	B1	D	A	Diethylamine	A	A1	D	D	A	A	B	B	A
Carbon Dioxide (wet)	A1	A2	A	A1	A	A1	A1	D	A	Diethylene Glycol	A1	A2	A2	C1	A1	A	B1	A	B1
Carbon Disulfide	B1	D	A	D	A1	B	A	A	B	Dimethyl Aniline	A	D	A	D	B2	B2	A2	-	B2
Carbon Monoxide	A1	A	A	A2	A	A	A	A	B	Dimethyl Formamide	A	A	D	D	A	B	A1	-	-
Carbon Tetrachloride	D	D	A	D	B	B	D	D	A1	Diphenyl	-	D	A	-	B	B	B2	-	B
Carbon Tetrachloride (dry)	-	D	A	-	B	B2	D	-	B	Diphenyl Oxide	-	D	A1	D	B1	A	B1	A	B1
Carbon Tetrachloride (wet)	-	D	A	-	A2	A2	D	C	B	Dyes	A	-	-	B	A	A	B	-	-
Carbonated Water	A	B	-	A	A	A	A	D	-	Epsom Salts (Magnesium Sulfate)	A1	A	A	A1	A	B	B1	A	-
Carbonic Acid	A1	A	A	A2	A1	A	B1	D	A2	Ethane	D	D	A	A1	A	A1	-	-	-
Catsup	A	A	-	A	A	A	D	D	-	Ethanol	A1	A	A	C	A	A	B	B	A
Chloric Acid	D	-	A	A2	D	C1	D	A2	A2	Ethanamine	A	D	A1	D	A	A	B	-	B
Chlorinated Glue	-	-	-	-	-	A	-	D	-	Ether	A	D	A	D	A	A	B1	C	B1
Chlorine Water	C1	D	A	A2	C	C	D	-	A2	Ethyl Acetate	A2	A1	A	D	B	B	A2	A	A
Chlorine, Anhydrous Liquid	D	D	A	D	C1	C	d	D	D	Ethyl Benzoate	-	B1	A	D	-	-	-	-	-
Chlorine (dry)	D	D	A	D	A1	B	C1	D	A2	Ethyl Chloride	A1	D	A	D	A	A	B	C	B1
Chloroacetic Acid	D	C1	A	B1	B1	A1	D	D	A1	Ethyl Ether	A1	D	A	D	B	B	B1	C	B1
Chlorobenzene (Mono)	D	C1	B	D	A	B	A	B	A	Ethyl Sulfate	-	-	A	-	D	D	-	-	-
Chlorobromomethane	C	A	A	D	-	-	-	B	-	Ethylene Bromide	-	D	A	D	A	A	B	-	B
Chloroform	A	C1	A1	D	A	A	B1	B	A1	Ethylene Chloride	A	C1	A	D	B	B	B	-	-
Chlorosulfonic Acid	D	D	A	D	D	B2	C	D	A1	Ethylene Chlorohydrin	D	D	A	D	B	B	B	-	B
Chocolate Syrup	A	A2	A	-	A	A	A	D	-	Ethylene Diamine	D	-	A	D	B1	B	B1	-	C
Chromic Acid 5%	D	D	A	A2	B	A	C	D	B	Ethylene Dichloride	A1	D	A	D	B	B	A1	A	B
Chromic Acid 10%	D	D	A	A2	B	B	D	D	A	Ethylene Glycol	A	A	A	A	B	B	A	A	B1
Chromic Acid 30%	D	D	A	A1	B2	B2	D	D	D	Ethylene Oxide	A1	D	A	D	B	B	D	D	A
Chromic Acid 50%	D	D	A	D	C	B2	D	D	B	Fatty Acids	A1	A	A	A	B	A	A	C	A
Chromium Salts	B	-	-	A	-	-	-	-	-	Ferric Chloride	A	A	A	A	D	D	D	D	B2
Cider	A	A	-	A	A	A	B	D	-	Ferric Nitrate	A1	A	A	A	B	B	D	-	B1
Citric Acid	A1	A	A	B2	B1	A2	C	D	A	Ferric Sulfate	A1	A	A	A	B1	A	D	D	A1
Citric Oils	-	A	-	-	A	A	C	D	-	Ferrous Chloride	D	A	A	A	D	D	D	D	B1
Clorox (Bleach)	A	D	A	A	A	A	A	D	A	Ferrous Sulfate	D	A	A	A	B	B	B1	D	B
Coffee	A	A	-	-	A	A	A	-	A	Fluoboric Acid	D	A	A	A	B	B	D	D	A1
Copper Chloride	D	A	A	A1	D	D	-	-	-	Fluorine	D	D	B	D	C	B	A	D	B1
Copper Cyanide	D	A	A	A2	B	B	D	A	A1	Fluosilicic Acid	D	A	A	D	C	B	D	D	B
Copper Fluoborate	-	-	-	A	D	D	-	D	B	Formaldehyde 40%	A	A	A	A	A1	A	B	B	B
Copper Nitrate	D	A	A	A2	A	A2	D	D	B2	Formaldehyde 100%	D	C	A	A	C	A	A	C	A

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Formic Acid	D	A1	A	A1	B1	A1	A	D	A	Hydroxyacetic Acid 70%	-	-	A	D	-	-	-	B	-
Freon® 11	D	A	A	A2	A	A	D	A	A	Ink	C	-	A	C	C	C	-	D	-
Freon 12	A1	A2	A	A2	B1	B	B1	A	A	Iodine	A	C	A	A	D	D	A	D	A
Freon 22B	B	B	A	A	A	A	D	D	A	Iodine (in alcohol)	C	-	-	A	-	-	B	-	B
Freon 113	-	D	A	B	-	-	-	-	A	Iodoform	-	-	C	A	A	A	-	-	D
Freon TF	D	D	A	B	A	A	D	A	A	Isooctane	A1	A2	A	A1	A1	A1	A1	-	-
Fruit Juice	A	B	A	A	A	A	A	D	A	Isopropyl Acetate	B1	B1	A	D	C	A	D	-	B
Fuel Oils	A1	A	B	A1	A	A	C1	A	A1	Isopropyl Ether	A1	B	A1	B	A	A	A	-	A
Furan Resin	-	D	A	A	A1	A	A	-	B	Isooctane	D	D	-	A	-	-	D	-	-
Furfural	B	D	A	D	A	B	A1	B	B	Jet Fuel (JP3, JP4, JP5)	C	A1	A	C	A	A	A	A	A
Gallic Acid	A	A	B	B	A	B	D	D	B1	Kerosene	A	B	A	A2	A	A	A	A	B
Gasoline (high-aromatic)	A	A	B	A	A	A	D	A	A	Ketones	A2	C	A	D	A	A	B	-	A
Gasoline, leaded, ref.	A2	B	A	B	A1	A2	A	-	A	Lacquer Thinners	A1	D	A	D	A1	A	A	C	A
Gasoline, unleaded	A2	C1	A	C2	A1	A2	A2	A	A	Lacquers	A1	D	A	D	A1	A	A	C	A
Gelatin	A1	A	A	B	A2	A2	A	A	A	Lactic Acid	B	B	A	B1	B1	B1	B	D	B1
Glucose	A	A	A	A2	A1	A	A	A	A	Lard	A1	B1	A	A1	A	A	A	A	A
Glue, P.V.A.	A1	-	A	C	A1	A2	A	A	A	Latex	A1	A2	A	-	A2	A2	A	-	A
Glycerin	A1	A	A	A	A2	A	A	A	A	Lead Acetate	A	A1	A	B	B	B1	D	A	B1
Glycolic Acid	-	A	A	B	A	A	-	-	A	Lead Nitrate	-	A2	A1	A2	B1	B1	D	-	B2
Gold Monocyanide	-	-	D	-	A	A	-	D	-	Lead Sulfamate	B1	A2	B	B	C	c	C	-	-
Grape Juice	A	-	A	A	A	A	-	D	-	Ligroin	D	A2	A	-	-	A	D	-	-
Grease	-	-	A	A	-	A	-	A	A	Lime	A1	-	A1	B	A	A	A	A	-
Heptane	A	C2	A	C1	A	A	A	A	A	Linoleic Acid	-	B1	A	A2	B	A	A2	-	-
Hexane	B	B1	A	B1	A	A	A	A	A	Lithium Chloride	-	A2	A	D	A1	A2	D	A	-
Honey	A	A	A	A	A	A	A	A	A	Lithium Hydroxide	-	-	A	-	B	B	d	-	B
Hydraulic Oil (Petro)	A1	D	A	A	A	A	A	A	A	Lubricants	A1	A1	A	B2	A2	A2	A2	A	A
Hydraulic Oil (Synthetic)	A1	D	A	A	A	A	A	-	A	Lye: KOH Potassium Hydroxide	C	A	A	B	B	A1	D	B2	B1
Hydrazine	-	C	C	-	A	A	-	D	-	Lye: NaOH Sodium Hydroxide	A	A	A	A	B	B1	D	D	C
Hydrobromic Acid 20%	D	A2	-	B2	D	D	D	D	A	Lye: Ca(OH) ₂ Calcium Hydroxide	A2	A2	A	B2	B1	B	C1	A	A1
Hydrobromic Acid 100%	D	C1	a	A1	D	D	D	D	C	Magnesium Bisulfate	A1	A2	A	A2	A1	A1	D	-	-
Hydrochloric Acid 20%	D	B2	A	A2	D	D	D	D	A1	Magnesium Carbonate	-	A	A1	B	B	B	A	-	B
Hydrochloric Acid 37%	D	C	A	B	D	D	D	D	B	Magnesium Chloride	A1	A2	A	B	D	D	D	D	A2
Hydrochloric Acid 100%	D	B1	A	D	D	D	D	D	A	Magnesium Hydroxide	B1	A	A	A2	B	A1	C1	A	A
Hydrochloric Acid, Dry Gas	A1	B	A	A2	D	D	D	-	A	Magnesium Nitrate	A1	A	A	A2	B	B	B	D	A
Hydrochloric Acid	B	A	A	B	B1	a	A	D	A	Magnesium Oxide	-	-	A	-	A	A	b	A	-
Hydrocyanic Acid (Gas 10%)	-	A	A	A	-	-	-	-	-	Magnesium Sulfate (Epsom Salt)	A1	A	A	A1	A	B	B1	A	B
Hydrofluoric Acid 20%	C1	A2	A	B	D	D	D	d	B	Maleic Acid	A	A	A	A2	A	B	B1	A	B
Hydrofluoric Acid 50%	D	A2	A	B1	D	D	D	D	B	Maleic Anhydride	-	D	A	-	A	A	A	-	-
Hydrofluoric Acid 75%	D	C1	A	C	D	D	D	D	B	Malic Acid	A	A1	A	A2	A	A2	B1	-	B
Hydrofluoric Acid 100%	D	C1	A	C	B1	B1	D	D	B	Manganese Sulfate	A2	-	A	C	B	B2	B1	A	A2
Hydrofluosilicic Acid 20%	D	A	A	A2	C2	B1	D	B	B	Mash	A	-	-	-	A	A	A	-	-
Hydrofluosilicic Acid 100%	D	A	A	B1	D	D	D	D	B	Mayonnaise	A	-	A	D	C	A	A	D	A
Hydrogen Gas	A2	A	A	A2	A	A	A	-	A	Melamine	A	A	A	D	-	D	-	D	-
Hydrogen Peroxide 10%	C1	A	A	A1	B2	B	A	C	A	Mercuric Chloride (dilute)	D	B	A	A	D	D	D	D	C
Hydrogen Peroxide 30%	D	B1	A	A1	B2	B	A	B	A	Mercuric Cyanide	A2	B	B	A	c	C	D	C	A
Hydrogen Peroxide 50%	D	B1	A	A1	B2	A2	A	-	A	Mercurous Nitrate	-	A	A	A	A1	A1	D	-	A1
Hydrogen Peroxide 100%	D	B1	A	A	B2	A2	A	B	A	Mercury	A	B	A	A	A	A	D	A	A2
Hydrogen Sulfide (aqua)	C1	A1	A	B1	C	A	B	D	A	Methane	A	A	A	B	A	A	A	-	A
Hydrogen Sulfide (dry)	C1	A1	A	A2	C1	A	B	D	A	Methanol (Methyl Alcohol)	B1	A2	A	A1	A	A	A1	A	A
Hydroquinone	D	A	A	B	b	b	B	-	B	Methyl Acetate	A2	D	A	D	A	B	A	A	A

Footnotes:

1. Satisfactory to 72°F (22°C)
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Chemical	Plastics				Metals				Chemical	Plastics				Metals					
	Nylon	Polypropylene	PTFE (Teflon®)	PVC	304 Stainless Steel	316 Stainless Steel	Aluminum	Cast Iron		Hasstelloy-C®	Nylon	Polypropylene	PTFE (Teflon®)	PVC	304 Stainless Steel	316 Stainless Steel	Aluminum	Cast Iron	Hasstelloy-C®
Methyl Acetone	A	-	A	D	A	A	A	A	-	Coconut	-	A1	A	A1	A	A	A	A	A
Methyl Acrylate	-	D	-	-	A	-	-	A	-	Cod Liver	-	A1	A	A1	A	A	A	-	A
Methyl Alcohol 10%	B1	A2	A	A1	A	A	A1	A	A	Corn	A	A2	A	B	A	A	A	A	A
Methyl Bromide	B1	C	A	D	A	A	D	A	-	Cottonseed	B	A	A	B2	A	A	A	A	A
Methyl Butyl Ketone	D	D	-	A	A	a	-	-	-	Creosote	D	C	A	C	B	B	B	-	B
Methyl Cellosolve	C	B	A	D	B	B	B	C	-	Diesel Fuel (20, 30, 40, 50)	A	A1	A	B	A	A	A	A	B
Methyl Chloride	B1	D	A	D	A	A	D	D	B	Fuel (1, 2, 3, 5A, 5B, 6)	A	B	A	A2	A	A	C1	A	A1
Methyl Dichloride	C	D	-	A	-	-	-	-	-	Ginger	-	-	A	-	D	D	-	-	-
Methyl Ethyl Ketone	A1	B	A	D	A	A	B	A	A	Hydraulic Oil (Petro)	A1	D	A	A	A	A	A	A	A
Methyl Ethyl Ketone Peroxide	-	-	-	D	-	-	-	-	-	Hydraulic Oil (Synthetic)	A1	D	A	A	A	A	A	-	A
Methyl Isobutyl Ketone	B2	A	A	D	B	B	B	C	A	Lemon	-	-	A	-	A	A	A	-	-
Methyl Isopropyl Ketone	A	-	A	D	A	A	A	C	-	Linseed	A1	A	A	A2	A	A	B	-	B
Methyl Methacrylate	-	D	-	A	B	B	-	C	-	Mineral	A	A	A	B	A	A	A	-	A
Methylamine	-	A2	A	D	A	A	A	A	-	Olive	A1	A	A1	C	A	A	A	-	A
Methylene Chloride	C1	B1	A	D	B	B	C	B	B	Orange	-	A	-	C1	A	A	A	-	A
Milk	A	B	A	A2	A	A	A	D	A	Palm	-	-	A	A	A	a	-	A	-
Mineral Spirits	A	B	A	A	A	A	A	B	B	Peanut	-	D	A	A1	A	A	A	A	-
Molasses	A1	B	A	A	A	A	A	B	A	Peppermint	-	-	A	-	A	A	D	-	-
Monochloroacetic Acid	D	-	A2	-	A1	A1	D	D	A2	Pine	A	B	A	D	A	A	A	C	-
Monethanolamine	A	B	A	D	A	a	B	A	-	Rapeseed	-	D	A	-	A	A	-	A	-
Morpholine	A2	B2	A2	-	-	A1	A1	-	A1	Rosin	A1	A2	A	C1	A1	A1	B1	-	A
Motor Oil	A2	A1	A	B	A1	A2	A1	-	-	Sesame Seed	-	A	A	A	A	A	-	A	-
Mustard	A	A	A	B	A	A	B	D	A	Silicone	A1	A	A	A	A	A	A	A	A
Naphtha	A	B	B	A1	A	A	A	B	B	Soybean	A	A1	A	A1	A	A	A	A	A
Naphthalene	A1	B	A	D	A	A	B1	A	A	Sperm (whale)	-	-	A	-	A	A	-	A	-
Natural Gas	-	A	A	A	A	A	A	A	-	Tanning	-	-	-	-	A	A	-	-	-
Nickel Chloride	C1	A	A	A	D	C	D	D	B	Transformer	A1	B	A	B	A	A	A	-	-
Nickel Nitrate	A1	A2	A2	A	B	B2	D	C	B2	Turbine	A	B1	A	A1	A	A	A	A	-
Nickel Sulfate	A1	A	A	A	B	B1	D	D	B	Oleic Acid	A	B1	A	C2	A	A	A	-	A2
Nitrating Acid (≤ 1% Acid)	-	C	A	D	C	A	D	-	A	Oleum 25%	D	D	A	D	B2	B	B	-	A
Nitrating Acid (≤ 15% H ₂ SO ₄)	-	C	A	D	C	C	D	A	A	Oleum 100%	D	D	A	D	A	A	B	-	D
Nitrating Acid (> 15% H ₂ SO ₄)	-	C	A	D	C	C	D	C	A	Oxalic Acid (cold)	B2	A2	A1	B	B	A	A	C	B
Nitrating Acid (< 15% HNO ₃)	-	C	A	D	C	D	D	C	A	Ozone	D	B	A	B	B	A	B	-	-
Nitric Acid (5-10%)	D	A	A	A1	A	A	A	D	A1	Palmitic Acid	A	B1	A2	B1	B1	A1	B	-	B
Nitric Acid (20%)	D	A2	A	A1	A	A	D	D	A1	Paraffin	A1	A1	A	B	A	A	A	-	B
Nitric Acid (50%)	D	B	A	B1	A2	A1	D	D	A1	Pentane	A1	D	A	A	C	C	B	-	A
Nitric Acid (concentrated)	D	D	A	B1	A1	A1	D	D	B1	Perchloric Acid	D	C	A	C	C	C	D	-	B
Nitrobenzene	B1	B1	A	D	B	B	B	C	D	Perchloroethylene	C1	D	A	C1	B	A1	C	A	B
Nitrogen Fertilizer	-	-	A	-	-	-	-	-	-	Petrolatum	D	D	C	B	A	A	-	-	A
Mitromethane	B1	B2	A	B2	A	A1	A	-	A	Petroleum	A1	B1	A2	-	A1	A1	D	-	-
Nitrous Acid	-	A	A	A	B	B	D	-	D	Phenol (10%)	D	B1	A	C1	B	B	A	D	B
Nitrous Oxide	C	D	A	A	B	B	B	-	B	Phenol (Carbolic Acid)	D	B	A	D	B	B	A	D	A
Oils: Aniline	A	A	A	D	A	A	D	A	B	Phosphoric Acid (≤ 40%)	B1	A2	A	B	D	C	C	D	A2
Anise	-	-	-	-	-	A	-	A	-	Phosphoric Acid (> 40%)	B1	A2	A	B	D	D	C	D	A2
Bay	-	-	-	-	-	A	-	A	-	Phosphoric Acid (crude)	B1	B2	A	B2	D	B	C	D	A2
Bone	-	A	A	-	-	A	-	A	-	Phosphoric Acid (molten)	-	D	-	D	-	C	C	-	C
Castor	A	A	A	A	A	A	A	A	-	Phosphoric Acid Anhydride	-	A	-	-	-	C	-	-	-
Cinnamon	-	D	A	D	A	A	A	-	-	Phosphorus	-	A	A2	A1	A2	A2	B	-	A2
Citric	A	A	A	B	A	A	A	D	A	Phosphorus Trichloride	-	-	A2	D	A1	A2	D	-	A2
Clove	-	-	A	-	A	A	B	-	A	Photographic Developer	-	A	a	A	A	A	-	D	B

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Chemical	Plastics				Metals					Chemical	Plastics				Metals				
	Nylon	Polypropylene	PTFE (Teflon®)	PVC	304 Stainless Steel	316 Stainless Steel	Aluminum	Cast Iron	Hastelloy-C®		Nylon	Polypropylene	PTFE (Teflon®)	PVC	304 Stainless Steel	316 Stainless Steel	Aluminum	Cast Iron	Hastelloy-C®
Photographic Solutions	A1	A2	A2	A	D	-	-	-	B2	Sulfamate (100-140°F)	A	A	A	A	-	C	-	-	A
Phthalic Acid	B2	A	A2	-	B2	A	B2	-	B2	Watts Type (115-160°F)	A	A	A	D	-	C	-	-	A
Phthalic Anhydride	-	D	A	D	A	A	A	-	A	Rhodium Plating (120°F)	D	A	A	A	-	D	-	-	D
Picric Acid	C1	B1	A	D	B	B	C	A	B	Silver Plating (80-120°F)	A	A	A	A	-	A	-	-	A
Plating Solutions:										Tin-Fluoborate Plating (100°F)	D	A	A	A	-	C	-	-	A
Antimony Plating (130°F)	D	A	A	A	A	A	A	A	A	Tin-Lead Plating	D	A	A	A	-	C	-	-	A
Arsenic Plating (110°F)	A	A	A	A	A	A	A	A	A	Zinc Plating:									
Brass Plating:										Acid Chloride (140°F)	D	A	A	A	-	D	-	-	D
Regular Brass Bath (100°F)	A	A	A	A	A	A	A	A	A	Acid Fluoborate Bath R.T.	D	A	A	A	-	C	-	-	A
High-Speed Brass Bath (110°F)	A	A	A	A	-	A	A	A	A	Acid Sulfate Bath (150°F)	D	A	A	D	-	C	-	-	A
Bronze Plating:										Alkaline Cyanide Bath R.T.	A	A	A	A	-	A	-	-	A
Cu-Cd Bronze Bath R.T.	A	A	A	A	A	A	A	A	A	Potash (Potassium Carbonate)	A	A	-	A	B	B	D	C	B
Cu-Sn Bronze Bath (160°F)	A	A	A	D	A	A	A	A	A	Potassium Bicarbonate	A1	A	A	A	B	B	D	A	B
Cu-Zn Bronze Bath (100°F)	A	A	A	A	A	A	A	A	A	Potassium Bromide	A1	A	A	A	B	B	C1	D	B
Cadmium Plating:										Potassium Chlorate	C1	A	A	A	B1	B	B	C	B
Cyanide Bath (90°F)	A	A	A	A	-	A	A	A	A	Potassium Chloride	A1	A	A	A	B1	A1	D	A	A
Fluoborate Bath (100°F)	D	A	A	A	A	A	A	D	D	Potassium Chromate	B	A	A1	A	B1	B1	B1	A	A
Chromium Plating:										Potassium Cyanide Solutions	A1	A	A	A	B1	B1	D	B	B
Barrel Chrome Bath (95°F)	D	A	A	A	-	D	A	C	D	Potassium Dichromate	B1	A	A	A	B	B1	B	A	B
Black Chrome Bath (115°F)	D	A	A	A	-	C	A	A	D	Potassium Ferricyanide	B1	A2	A2	A	B1	B1	B2	C	B2
Chromic – Sulfuric Bath (130°F)	D	A	A	A	-	C	A	A	D	Potassium Ferrocyanide	B1	A	A	A	B	B	B1	C	B
Fluoride Bath (130°F)	D	A	A	A	-	D	A	C	D	Potassium Hydroxide (Caustic Potash)	C1	A	A	A1	B	A1	D	B2	B1
Fluosilicate Bath (95°F)	D	D	A	A	-	C	A	C	D	Potassium Hypochlorite	B1	-	A2	B1	C1	B	D	A	B2
Copper Plating (Cyanide):										Potassium Iodide	A1	A2	A2	A2	A1	A1	B1	A	A2
Copper Strike Bath (120°F)	A	A	A	A	-	A	-	A	A	Potassium Nitrate	B1	A	A	A	B	B	B	A	B1
High-Speed Bath (180°F)	A	A	A	D	-	A	A	A	A	Potassium Oxalate	-	-	A2	-	B	B1	B1	A	A1
Rochelle Salt Bath (150°F)	A	A	A	D	-	A	A	A	A	Potassium Permanganate	D	A1	A	A1	B1	B	B1	A	A1
Copper Plating (Acid):										Potassium Sulfate	A1	-a	A	A2	B1	A	C	A	B1
Copper Fluoborate Bath (120°F)	D	A	A	A	A	D	A	D	D	Potassium Sulfide	A	A	A	A2	B	B	D	B	-
Copper Sulfate Bath R.T.	D	A	A	A	-	D	A	A	D	Propane (liquefied)	A1	A	A	A1	A	A	A	A	A
Copper Plating (Misc.):										Propylene	-	-	A2	B1	B1	A1	A	A	-
Copper Pyrophosphate	A	A	A	A	-	A	A	A	A	Propylene Glycol	A	A2	A	C1	B	B	B	A	B
Copper (Electroless)	A	A	A	A	-	-	A	-	-	Pyridine	C1	A2	A	D	A	A	B	A	B
Gold Plating:										Pyrogallic Acid	-	A	A	A	B2	B	B	D	B
Acid (75°F)	A	A	A	A	-	C	-	-	A	Resorcinol	D	A2	A2	C	-	-	-	-	-
Cyanide (150°F)	A	A	A	D	-	A	-	-	A	Rosins	A1	A2	A	C1	A1	A1	B1	D	-
Neutral (75°F)	A	A	A	A	-	C	-	-	A	Rum	A	A	-	A	A	A	-	-	-
Indium Sulfamate Plating R.T.	D	A	A	A	-	C	-	-	A	Rust Inhibitors	-	A	-	-	A	A	-	C	-
Iron Plating:										Salad Dressings	A	A	-	-	A	A	B	D	-
Ferrous Am Sulfate Bath (150°F)	D	A	A	D	-	C	-	-	A	Salicylic Acid	A1	A1	A2	B1	B2	B2	B2	A	A2
Ferrous Chloride Bath (190°F)	D	C	A	D	-	D	-	-	D	Salt Brine (NaCl saturated)	A	A	A2	A	B1	A2	B1	D	A2
Ferrous Sulfate Bath (150°F)	D	A	A	D	-	C	-	-	A	Sea Water	A2	A	A	A2	C	C	B	D	A
Fluoborate Bath (145°F)	D	A	A	D	-	D	-	-	B	Shellac (Bleached)	A1	A	A	-	A	A	A	A	-
Sulfamate (140°F)	D	A	A	A	-	D	-	-	B	Shellac (Orange)	A1	A	A	-	A	A	A	A	-
Sulfate-Chloride Bath (160°F)	D	A	A	D	-	D	-	-	D	Silicone	A1	A	A	A	A	A	A	A	-
Lead Fluoborate Plating	D	A	A	A	-	C	-	-	A	Silver Bromide	-	-	A	-	D	D	D	D	A
Nickel Plating:										Silver Nitrate	A1	A1	A	A1	B	B	D	C	A
Electroless (200°F)	D	D	A	D	-	-	-	-	-	Soap Solutions	A1	A	A	A	A	A1	C	C	A
Fluoborate (100-170°F)	D	A	A	A	-	C	-	-	A	Soda Ash (see Sodium Carbonate)	B	A	A	A	A	A	D	B	-
High-Chloride (130-160°F)	D	A	A	D	-	C	-	-	A	Sodium Acetate	B1	A	A	B1	B	B1	B	B	A

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Sodium Aluminate	A1	-	A	-	A	A	-	A	B	Sulfuric Acid (< 10%)	C1	A2	A	A1	D	B	D	C	B1
Sodium Benzoate	B1	A2	A2	B1	-	-	A1	-	A1	Sulfuric Acid (10%-75%)	D	A1	A	A1	D	D	D	D	B1
Sodium Bicarbonate	A	A	A	A2	A	A1	D	C	B1	Sulfuric Acid (75%-100%)	D	C1	A	D	C	D	D	D	B1
Sodium Bisulfate	A1	A	A	A2	D	C	D	D	B2	Sulfuric Acid (cold concentrated)	D	A2	A	D	C	B	B	D	A1
Sodium Bisulfite	C1	A	A	A2	B1	B1	D	D	B	Sulfuric Acid (hot concentrated)	D	D	A	D	D	C	D	D	D
Sodium Borate (Borax)	A1	A2	A	A2	B2	B	C	-	A	Sulfurous Acid	D	A	A	A2	B1	B	B1	D	B
Sodium Bromide	B1	-	A2	B2	C	C	D	C	-	Sulfuryl Chloride	-	-	A	-	-	-	-	-	-
Sodium Carbonate	B1	A	A	A2	A	A	D	B	A	Tallow	A1	A2	A	-	A	A	A	-	-
Sodium Chlorate	D	A	A	A1	A	B1	C1	-	B1	Tannic Acid	C1	A	A	A1	B1	C	C	C	B1
Sodium Chloride	A1	A	A	A2	B	B	C	D	A	Tanning Liquors	A1	A1	A	A1	A2	A	A	-	B
Sodium Chromate	C	-	A	-	B1	B	B	A	A	Tartaric Acid	B2	A	A	A1	C2	C2	B1	C	B
Sodium Cyanide	A1	A	A	A2	A1	B1	D	A	A	Tetrachlorethane	C1	C	A	C	B	A	C	A	A
Sodium Ferrocyanide	-	A	A	A	B	B	A	-	A	Tetrachloroethylene	A1	D	A	D	-	A	-	A	-
Sodium Fluoride	B	A	A1	A2	D	D	B	C	A	Tetrahydrofuran	A	C2	A	D	A	A	-	-	A
Sodium Hydrosulfite	A	-	A	C	-	-	A	-	A	Tin Salts	-	A	A	A	-	D	D	-	C
Sodium Hydroxide (20%)	A	A	A	A	B	B2	D	A2	B	Toluene (Toluol)	A1	C1	A	D	A	A	A	A	A
Sodium Hydroxide (50%)	A	A	A	A	B	B1	D	D	C	Tomato Juice	A1	A	A	A	A	A	A	-	-
Sodium Hydroxide (80%)	C	A	A1	A	C	B1	D	D	A1	Trichloroacetic Acid	C	A	A	B	D	C	D	D	B
Sodium Hypochlorite (100%)	D	B	A	B	D	D	D	D	B	Trichloroethane	C1	C	A	C	B	B	D	D	B
Sodium Hypochlorite (< 20%)	D	A	A	A	C	C	D	D	A	Trichloroethylene	C1	C1	A	D	B	B	D	C	A
Sodium Hyposulfate	-	-	A	-	A	A	D	D	-	Trichloropropane	-	-	A1	-	A	A	D	A	A
Sodium Metaphosphate	A1	A1	A	A	A	A	C	C	-	Tricresylphosphate	A2	A1	A	D	B	B	D	B	A
Sodium Metasilicate	-	A	A	A	A	A	D	A1	A	Triethylamine	A1	D	A	B	A	A	-	A	-
Sodium Nitrate	A1	A	A	A2	B1	B1	B	B	B	Trisodium Phosphate	A	A	A	A	B	B	D	-	A
Sodium Perborate	B1	A	A	A2	B	B	C	C	B	Turpentine	B	D	A	D	A	A	A	-	B
Sodium Peroxide	A1	B	A	B2	A	A	C	C	B	Urea	A	A	A	D	B	B	B	-	B
Sodium Polyphosphate	A1	A	A	A1	B	B	D	D	A	Uric Acid	A	-	A	A	B	B	D	D	B
Sodium Silicate	A1	A	A	A2	A	B	A	B	B	Urine	B	A	A1	A	A	A	B	A	-
Sodium Sulfate	A	A	A	A2	B	B1	A	B	B	Varnish	A	A	A	D	A	A	A	C	A
Sodium Sulfide	A1	A	A	A2	B	D	D	C	B1	Vegetable Juice	A	-	A	-	A	A	D	D	-
Sodium Sulfite	D	A2	A	A2	B	A	C1	A1	B	Vinegar	A	A	A	B	A	A	D	D	A
Sodium Tetraborate	A	-	A	A2	A2	A	C	-	-	Vinyl Acetate	-	B1	A2	D	B	B	A1	B	-
Sodium Thiosulfate (hypo)	B	A2	A	A2	A2	B	A	C	A2	Vinyl Chloride	A1	-	A2	D	B2	A1	B1	B	A2
Sorghum	A	-	-	-	A	A	-	A	-	Water, Deionized	A1	A2	A2	A2	D	A2	A2	D	A2
Soy Sauce	A	-	-	-	A	A	A	D	-	Water, Acid, Mine	A	A	A	B	B	B	D	D	A
Stannic Chloride	B1	A	A	A2	D	D	D	D	B	Water, Distilled	A1	A	A	A2	A	A	A	D	A
Stannic Fluoborate	-	-	-	-	-	A	-	D	-	Water, Fresh	A1	A	A	B	A	A	B	D	A
Stannous Chloride	C1	A	A	A1	C2	A2	D	-	B	Water, Salt	A2	A	A	B	B	B	B	D	A
Starch	A1	A2	A	A	A	A	A	C	-	Weed Killers	A	-	-	-	A	A	D	-	-
Stearic Acid	A2	A2	A	B2	B	A	B	C	B	Whey	-	-	A	-	A	A	B	-	-
Stoddard Solvent	A	C	A	C1	A	A	A	A	A	Whiskey & Wines	A1	A	A	A2	A	A	C1	D	-
Styrene	A1	-	A	D	A	A	A	A	D	White Liquor (Pulp Mill)	A1	A1	A	A2	A	A	B	C	A
Sugar (liquids)	A1	A	A	-	A	A	A	-	A	White Water (Paper Mill)	A	A	-	A	A	A	-	A	-
Sulfate (liquors)	B1	A	A	B	B	B	D	C	B	Xylene	A2	B	A	D	B	B	A1	B	A
Sulfur Chloride	A1	C1	A	C1	D	D	D	D	A	Zinc Chloride	A	A	A	B	B	B	D	D	B
Sulfur Dioxide	C1	A1	A	A1	D	A1	B	-	C	Zinc hydrosulfite	A	-	A	-	A	A	D	D	-
Sulfur Dioxide (dry)	B1	A1	A	A2	D	A	B	A	B	Zinc Sulfate	A	A	A	A2	B1	A	D	D	A2
Sulfur Hexafluoride	B	-	-	B	-	-	-	-	-										
Sulfur Trioxide	D	C	A	A	A	C	A	B	-										
Sulfur Trioxide (dry)	A1	D	A	A1	D	A	A	A	B										

Footnotes:

- Satisfactory to 72°F (22°C)
- Satisfactory to 120°F (48°C)

Warning:

The information contained in this chart is to be used **ONLY** as a guide for selecting materials with the appropriate chemical compatibility. The material should be tested with the chemicals and under the specific conditions of your application before permanent installation. The ratings of chemical behavior apply to a 48 hour exposure period; SensorTec, Inc. has no knowledge of possible effects beyond this period. SensorTec, Inc. does not warrant, neither express nor implied, the information in this chart to be accurate or complete or that any material is suitable for any purpose.