

AB&I Foundry Chemical Resistance Guide

RESISTANCE RATING KEY:

E = Excellent G = Good C = Conditional U = Unsatisfactory - = Test Data Not Available

| AGENT | RESISTANCE RATING KEY: | | | | | | | AGENT | RESISTANCE RATING KEY: | | | | | | |
|--|------------------------|----------|-------|-----------------|-------------------|--------|----------|---------------------------------|------------------------|----------|-------|-----------------|-------------------|--------|----------|
| | NITRILE | NEOPRENE | EPOXY | STAINLESS STEEL | DUCTILE/CAST IRON | BRONZE | ALUMINUM | | NITRILE | NEOPRENE | EPOXY | STAINLESS STEEL | DUCTILE/CAST IRON | BRONZE | ALUMINUM |
| Acetaldehyde | U | C | E | E | C | G | G | Ammonium Phosphate, Mono-Di-Tri | E | E | E | E | C | C | G |
| Acetamide | E | G | E | E | U | U | - | Ammonium Sulfate | E | E | E | G | C | G | G |
| Acetic Acid (Up to 10%, 100°F Max.) | G | E | C | E | U | C | G | Ammonium Sulfide | E | E | - | E | U | U | C |
| Acetic Acid (10-50%, 100°F Max.) | G | G | G | E | U | C | G | Ammonium Thiocyanate | E | E | - | G | - | - | - |
| Acetic Acid, Glacial (100°F Max.) | U | U | G | E | U | C | G | Amyl Acetate | U | U | E | E | C | C | G |
| Acetic Anhydride | U | G | E | E | G | C | G | Amyl Alcohol | G | G | U | E | C | E | G |
| Acetone | U | U | U | E | E | E | E | Amyl Borate | E | E | - | - | - | - | - |
| Acetonitrile | G | - | - | - | - | - | - | Amyl Chloride | U | U | E | G | - | E | U |
| Acetophenone | U | U | - | - | - | - | - | Amyl Chloronaphthalene | U | U | - | - | - | - | - |
| Acrolein, (40%, 120°F) | - | - | - | G | G | G | E | Amyl Naphthalene | U | U | - | - | - | - | - |
| Acrolein, (100%, 200°F) | - | - | - | G | G | G | G | Aniline | U | U | C | E | C | C | C |
| Acrylic Resin | - | G | - | - | - | - | - | Aniline Dyes | U | G | - | E | C | C | C |
| Acrylonite | U | U | - | E | C | E | G | Aniline Hydrochloride | G | U | - | - | - | - | - |
| Acrylonitrile | U | U | E | E | E | E | G | Aniline Oil | U | U | E | E | E | E | C |
| Adipic Acid | E | - | - | G | - | - | G | Animal Fats | E | G | E | E | E | - | - |
| Allyl Alcohol, (up to 96%) | E | E | - | E | E | G | C | Animal Oil, (Lard Oil) | E | G | E | E | E | E | E |
| Allyl Chloride | U | - | - | - | - | - | - | Anthraquinone | U | U | - | - | - | - | - |
| Alums, NH ₄ Cr ₂ K ₂ Na | E | E | - | E | U | U | G | Anthraquinone Sulfonic Acid | U | U | - | - | - | - | - |
| Aluminum Acetate | G | G | - | E | U | U | C | Antimony Trichloride | U | U | E | U | - | - | U |
| Aluminum Bromide | E | E | - | - | - | - | - | Apple Juice | E | E | - | G | U | C | G |
| Aluminum Chloride | E | E | E | C | U | U | U | Aqua Regia | U | U | U | U | - | U | U |
| Aluminum Fluoride | E | E | G | C | U | - | G | Arochlor 1248 | C | U | E | G | - | - | E |
| Aluminum Hydroxide | G | E | G | C | E | C | G | Arochlor 1254 | C | U | - | - | - | - | - |
| Aluminum Nitrate | E | E | - | C | U | U | U | Arochlor 1260 | U | U | - | - | - | - | - |
| Aluminum Phosphate | E | E | - | - | - | - | - | Aromatic Solvents | U | U | E | E | G | E | E |
| Aluminum Salts | E | E | - | - | - | - | - | Arsenic Acid, (up to 75%) | E | E | E | E | U | U | U |
| Aluminum Sulphate | E | E | E | G | U | CG | | Arylsulfonic Acid | U | U | - | - | - | - | - |
| Ammonia Liquid | G | E | E | E | E | U | C | ASTM Oil #1 | E | E | E | E | E | E | E |
| Ammonium Alum | E | E | - | - | - | - | - | ASTM Oil #2 | E | G | E | E | E | E | E |
| Ammonium Bifluoride | G | - | E | E | - | - | U | ASTM Oil #3 | E | U | E | E | E | E | E |
| Ammonium Carbonate | U | E | E | E | C | G | C | ASTM Ref Fuel A | E | G | E | E | E | E | E |
| Ammonium Chloride | E | E | E | C | U | U | C | ASTM Ref Fuel B | E | U | E | E | E | E | E |
| Ammonium Diphosphate, (Up to 10% and 70°F) | - | - | - | G | G | C | U | ASTM Ref Fuel C | G | U | E | E | E | E | E |
| Ammonium Diphosphate, (Up to 10% and 200°F) | - | - | - | G | - | U | U | Bardol B | U | U | - | - | - | - | - |
| Ammonium Fluoride | - | - | - | G | - | - | - | Barium Carbonate | E | E | E | E | G | G | G |
| Ammonium Hydroxide | U | E | E | E | E | U | C | Barium Chloride | E | E | E | E | C | G | U |
| Ammonium Nitrate | E | G | E | E | E | U | G | Barium Cyanide | C | E | E | G | G | U | U |
| Ammonium Persulfate, (Up to 10%) | U | E | E | E | U | E | C | Barium Hydroxide | E | E | E | E | C | G | U |
| | | | | | | | | Barium Nitrate | E | E | E | E | E | U | G |
| | | | | | | | | Barium Sulfate | E | E | C | E | C | C | U |
| | | | | | | | | Barium Sulfide | E | E | G | E | C | C | U |

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| Beer | E | E | E | E | U | E | E | Calcium Sulfide | E | E | - | - | - | - | - |
| Beef Sugar Liquors | E | E | E | E | E | E | E | Calcium Silicate | G | G | - | G | C | C | U |
| Benzaldehyde | U | U | E | E | G | E | G | Caliche Liquors | E | E | - | E | - | - | - |
| Benzene | U | U | C | E | G | G | G | Camphor | G | G | - | G | C | C | C |
| Benzene, (Benzol) | U | U | U | E | G | E | G | Cane Sugar Liquors | E | E | E | E | G | G | G |
| Benzene Sulfonic, (Aromatic Acid) | U | G | - | G | - | - | - | Carbitol | G | G | - | - | - | - | - |
| Benzine | E | C | C | E | G | G | G | Carbolic Acid, Phenol | U | U | C | G | U | E | G |
| Benzoic Acid | U | U | E | G | U | C | G | Carbonated Beverages | G | G | - | G | G | G | G |
| Benzyl Acetate | - | - | - | G | E | - | E | Carbonated Water | E | E | - | E | E | G | E |
| Benzyl Alcohol | U | G | E | E | E | E | G | Carbon Bisulfide | U | U | E | G | G | G | G |
| Benzyl Benzoate | U | U | - | - | - | - | - | Carbon Dioxide, Wet | E | G | E | E | U | E | G |
| Benzyl Chloride | U | U | - | - | E | - | - | Carbon Disulfide | U | U | C | E | G | C | C |
| Beryllium Sulfate | G | G | - | G | G | G | G | Carbon Monoxide | E | G | E | E | U | C | E |
| Black Liquor, (Sodium Bisulfite) | E | E | E | E | C | C | E | Carbon Tetrachloride | C | U | E | G | C | E | U |
| Black Sulphate Liquor | G | G | E | E | C | C | G | Carbonic Acid | E | E | G | E | U | U | G |
| Bleach, (12% Active Cl2) | U | U | - | - | - | - | - | Casein | G | G | - | G | C | C | C |
| Bleaching Water | - | - | - | G | U | U | U | Castor Oil | E | E | E | E | G | E | E |
| Bleaching Powder, Wet | U | E | - | C | - | G | - | Caustic Potash | G | G | E | G | C | U | U |
| Boric Acid | E | E | E | E | U | G | U | Cellosolve | U | U | - | - | - | - | - |
| Brake Fluid | U | C | - | G | G | G | G | Cellosolve Acetate | U | U | - | - | - | - | - |
| Brine | E | E | - | G | U | - | U | Cellosolve, (Alcohol Ether) | U | U | - | - | - | - | - |
| Bromine | U | U | U | U | U | C | U | Cellosolve Butyl | U | U | - | - | - | - | - |
| Bromine Water | U | U | U | U | U | C | U | China Wood, Oil, Tung Oil | E | G | - | E | C | C | - |
| Bunker Oil, (Fuel Oil) | E | C | - | E | G | G | E | Chloracetic Acid | U | U | G | U | U | U | C |
| Butadiene | U | G | E | E | C | C | E | Chloralhydrate | U | U | - | - | - | - | - |
| Butric Acid | E | E | - | G | U | U | C | Chloric Acid, (up to 20%) | U | U | - | C | - | - | U |
| Butyl Acetate | U | U | G | C | E | E | G | Chlorinated Salt Brine | U | U | - | - | - | - | - |
| Butyl Acetyl Ricinoleate | G | G | - | - | - | - | - | Chlorinated Solvents | U | U | - | G | C | C | - |
| Butyl Alcohol (Butanol) | E | E | E | E | U | G | G | Chlorine, Water | U | U | E | C | U | U | U |
| Butyl, (Cellosolve Adipate) | U | U | - | - | - | - | - | Chloroacetone | U | G | - | - | - | - | - |
| Butyl Stearate | G | U | - | - | - | - | - | Chlorobenzene | U | U | E | E | G | G | G |
| Butylene | G | C | E | E | E | E | E | Chlorobromomethane | U | U | - | G | C | G | C |
| Butyne Diol | U | U | - | - | - | - | - | Chloronaphthalene | U | U | - | - | - | - | - |
| Butyraldehyde | C | U | - | G | - | - | - | Chloro Nitro Ethane | U | U | - | - | - | - | - |
| Calcium Acetate | G | G | - | - | - | - | - | Chlorophyll | G | G | - | G | G | G | G |
| Calcium Bicarbonate | - | - | - | G | G | G | G | Chlorosulfonic Acid | U | U | C | G | U | U | C |
| Calcium Bisulfate | G | E | E | E | U | U | U | Chlorotoluene | U | U | - | - | - | - | - |
| Calcium Bisulfide | G | E | E | G | - | C | C | Chlorox | G | G | E | E | U | E | C |
| Calcium Bisulfite | E | E | E | E | U | C | C | Chrome Alum | E | E | - | - | - | - | - |
| Calcium Carbonate | E | E | E | G | U | C | U | Chrome Plating Solutions | U | U | U | U | - | U | E |
| Calcium Chlorate | G | G | E | G | C | U | G | Chromic Acid, (Up to 50%) | U | U | C | G | U | U | U |
| Calcium Chloride | E | E | E | C | C | G | C | Chromic Acid, (Greater than 50%) | U | U | - | C | C | U | U |
| Calcium Hydroxide, (Lime) | E | E | E | E | E | U | C | Chromium Sulfate | G | G | - | G | U | C | G |
| Calcium Hypochloride | U | U | - | - | - | - | - | Cider | E | E | E | E | U | E | G |
| Calcium Hypochlorite | U | C | E | C | U | U | C | Citric Acid | E | E | E | E | U | U | C |
| Calcium Nitrate | E | E | - | G | - | - | G | Citrus Juices | E | E | - | G | U | G | C |
| Calcium Phosphate | G | G | - | G | C | C | U | Coconut Oil | E | G | E | E | E | E | E |
| Calcium Sulfate | E | E | E | G | C | C | G | Cod Liver Oil | E | G | E | E | - | E | E |

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|---|---------|----------|-------|-----------------|-------------------|--------|----------|--|---------|----------|-------|-----------------|-------------------|--------|----------|
| | | | | | | | | | | | | | | | |
| Coffee | E | E | - | E | U | E | E | Dioxane | U | U | - | - | E | - | - |
| Cooking Oil | E | G | - | E | G | G | G | Dioxolane | U | U | - | - | - | - | - |
| Copper Acetate | C | C | - | E | U | U | U | Dipentene, (Terpene-Hydrocarbon) | G | U | - | - | - | - | - |
| Copper Carbonate | - | - | - | E | - | - | U | Diphenyl | U | U | - | - | - | - | - |
| Copper Chloride | E | E | E | U | U | U | U | Diphenyl Oxides | U | U | E | G | E | E | G |
| Copper Cyanide | E | E | G | E | U | C | U | Dipropylene Glycol | E | E | E | E | G | - | - |
| Copper Nitrate | E | E | E | G | U | U | U | Disodium Phosphate | G | G | - | G | - | - | G |
| Copper Sulfate | E | E | E | G | U | U | U | Dowtherm A | U | U | E | E | G | - | - |
| Corn Oil | E | E | E | E | E | C | E | Dowtherm E | U | U | E | E | G | - | - |
| Cotton Seed Oil | E | E | E | E | E | E | E | Dowtherm SR1 | G | - | E | E | G | - | - |
| Creosote (Wood or Coal Tar) | E | G | E | E | C | C | G | Drilling Mud | E | C | - | E | G | G | G |
| Cresol | U | U | E | E | C | C | G | Dry Cleaning Fluids | U | U | - | E | G | C | E |
| Cresylic Acid | U | U | - | G | U | C | C | Drying Oil | E | G | - | G | G | C | C |
| Crude Oil, Sour | E | G | - | E | C | C | G | Enamel | G | G | - | - | - | E | - |
| Crude Oil, Sweet | E | G | - | E | G | G | E | Epsom Salts, (MgSo4) | E | E | E | G | C | G | E |
| Cupric Sulphate | E | E | - | - | - | - | - | Ethane | E | G | - | G | C | G | A |
| Cyanide Plating Solutions | G | G | - | G | U | U | U | Ethanolamine | G | G | E | E | - | E | G |
| Cyclohexane, (Alicyclic Hydrocarbon) | E | U | E | E | E | U | E | Ethers | U | U | E | E | G | G | E |
| Cyclohexanol | G | G | - | - | - | - | - | Ethyl Acetate | U | U | C | G | E | E | G |
| Cyclohexanone | U | U | - | G | - | - | - | Ethyl Acetoacetate | U | U | - | - | - | - | - |
| Cymene | U | U | - | - | - | - | - | Ethyl Acrylate | U | U | - | - | - | - | - |
| Deionized Water | E | C | E | E | U | U | E | Ethyl Alcohol (Ethanol) | E | E | E | E | E | E | G |
| Detergents, Synthetic | G | G | - | G | G | G | G | Ethyl Benzene | U | U | - | - | - | - | E |
| Developing Solutions, (Hypos) | E | E | E | E | U | U | C | Ethyl Bromide | G | U | - | G | G | E | G |
| Dextrin | G | G | - | G | G | G | G | Ethyl Cellosolve | U | U | - | - | - | - | - |
| Diacetone Alcohol | U | E | E | E | E | E | E | Ethyl Chloride | E | G | E | E | C | E | G |
| Dibenzyl Ether | U | U | - | - | - | - | - | Ethyl Dichloride | U | U | - | G | - | - | - |
| Dibutyl Phthalate | U | U | - | - | - | - | - | Ethyl Ether | C | U | - | - | - | - | - |
| Dichloroethane | U | U | - | C | C | - | - | Ethyl Formate | U | G | - | - | - | - | - |
| Dichloroethyl Ether | U | U | - | G | G | G | G | Ethyl Mercaptan | U | U | - | - | - | - | - |
| Dichlorobenzene | U | U | - | - | - | - | - | Ethyl Oxalate | U | C | - | - | - | - | - |
| Dicyclohexylamine | C | U | - | - | - | - | - | Ethyl Pentochlorobenzene | U | U | - | - | - | - | - |
| Diesel Oil | E | C | E | E | G | E | E | Ethyl Silicate | E | E | - | - | - | - | - |
| Diethyl Benzene | U | U | - | G | - | - | - | Ethyl Sulfate | G | G | E | G | - | E | - |
| Diethyl Ether | U | U | - | - | - | - | - | Ethylene Chloride | U | U | G | E | - | - | C |
| Diethyl Sebacate | U | U | - | - | - | - | - | Ethylene Chlorohydrin | U | G | - | - | - | - | - |
| Diethyl Sulfate | C | C | - | G | G | G | G | Ethylene Diamine | E | E | - | - | - | - | - |
| Diethylamine | C | G | E | G | G | E | G | Ethylene Dichloride, (Dichloroethane) | U | U | C | E | E | C | G |
| Diethylene Glycol | E | E | C | E | E | E | G | Ethylene Glycol | E | E | C | E | E | E | G |
| Di-Isopropyl Ketone | U | U | - | - | - | - | - | Ethylene Oxide | U | U | E | E | U | E | G |
| Dimethyl Aniline | U | U | - | - | - | - | - | Fatty Acids | G | G | E | E | C | C | E |
| Dimethyl Ether | U | U | - | - | - | - | - | Ferric Chloride, (Up to 15%) | E | E | E | C | U | U | U |
| Dimethyl Formamide | G | U | - | E | G | G | G | Ferric Chloride, Saturated | E | G | E | C | U | U | U |
| Dimethyl Phthalate | U | U | - | - | - | - | - | Ferric Nitrate | E | E | E | G | - | U | C |
| Dimethylamine | G | G | - | - | - | - | - | Ferric Sulfate | E | E | E | E | U | U | C |
| Diocyl Phthalate | U | U | - | - | - | - | - | | | | | | | | |

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| Ferrous Ammonium Citrate | - | - | - | G | - | - | G | Hydraulic Oil, (Petroleum Base) | E | G | E | E | G | G | E | |
| Ferrous Ammonium Sulfate, (To 30%) | G | G | E | G | U | U | E | Hydrazine | C | C | E | E | G | U | U | C |
| Ferrous Chloride | E | E | E | U | U | G | U | Hydrobromic Acid, (Up to 40%) | U | E | C | U | U | U | U | |
| Ferrous Sulfate | E | E | E | G | U | G | C | Hydrochloric Acid, (Up to 36%, 75°F) | G | G | E | U | U | U | U | |
| Ferrous Sulfate, Saturated | C | C | E | E | C | C | C | Hydrochloric Acid, (Up to 36%, 158°F) | U | U | E | U | U | U | U | |
| Fertilizer Solutions | G | G | - | G | G | C | G | Hydrocyanic Acid | G | G | E | G | U | U | G | |
| Fish Oils | E | G | G | E | G | G | C | Hydrofluoric Acid, (Up to 75%, 75°F Max.) | U | U | G | U | U | U | U | |
| Fluoboric Acid | E | E | E | C | U | U | U | Hydrofluosilicic Acid | G | G | C | C | U | U | U | |
| Fluorine, Gas, Wet | U | U | U | C | U | U | U | Hydrogen Peroxide, (Up to 50%) | U | U | G | G | U | G | E | |
| Fluorobenzene | U | U | - | - | - | - | - | Hydrogen Peroxide, (Up to 90%) | U | U | E | G | U | U | E | |
| Fluosilicic Acid | E | E | C | G | U | U | C | Hydrogen Phosphide | U | U | - | - | - | - | - | |
| Formaldehyde, Cold | G | C | E | E | G | E | E | Hydrogen Sulfide, Wet | U | G | E | G | U | U | U | |
| Formaldehyde, Hot | G | G | - | C | U | G | G | Hydroquinone | C | U | - | - | - | - | - | |
| Formamide | E | E | - | - | - | - | - | Hypo, (Sodium Thiosulfate) | E | E | - | G | C | C | G | |
| Formic Acid, Cold | U | G | C | G | U | G | U | Hypochlorous Acid, Dilute | U | U | - | - | - | - | - | |
| Formic Acid, Hot | U | E | - | G | U | G | U | Inks | E | E | E | E | U | C | C | |
| Fructose | E | E | E | E | U | C | E | Iodine | C | U | C | C | U | U | E | |
| Fruit Juices | E | E | E | E | U | G | G | Iodoform | - | E | - | E | C | C | C | |
| Fuel Oil | E | G | E | E | E | E | C | Iso-Butane | G | U | - | G | - | - | - | |
| Fumaric Acid | E | G | - | - | - | - | - | Iso-Octane, (100°F Max.) | E | C | E | E | G | E | E | |
| Furan | U | U | E | E | E | E | E | Isobutyl Alcohol | G | E | - | - | - | - | - | |
| Furfural | U | U | E | G | E | E | E | Isododecane | E | G | - | - | - | - | - | |
| Fyrquel 150, 220, 300, 550 | U | U | - | - | - | - | - | Isopropyl Acetate | U | U | E | E | - | G | G | |
| Gallic Acid | G | G | - | E | U | E | E | Isopropyl Alcohol (Isopropanol) | G | G | E | E | G | E | G | |
| Gasoline, Leaded | G | C | E | E | E | E | E | Isopropyl Chloride | U | U | - | - | - | - | - | |
| Gasoline, Unleaded | C | C | E | E | G | E | E | Isopropyl Ether | G | C | U | E | G | E | E | |
| Gasoline, Aviation | C | C | E | E | G | E | E | Jet Fuel, (JP-3, JP-4, JP-5, JP-6) | E | C | E | E | E | E | E | |
| Gasoline, Sour | C | C | E | E | G | U | G | Kerosene | E | C | E | E | E | E | E | |
| Gasoline, Motor | C | C | E | E | G | E | E | Ketchup | E | - | - | E | U | U | - | |
| Gelatin | E | E | G | E | U | E | G | Ketones | U | U | C | E | E | E | E | |
| Glauber's Salt | U | G | - | E | G | G | - | Lacquers, (and Solvents) | U | U | E | E | C | E | E | |
| Glucose | E | E | G | E | E | E | E | Lactic Acid, Cold | E | E | G | G | U | C | G | |
| Glue | E | E | E | E | E | E | C | Lactic Acid, Hot | U | U | G | G | U | C | G | |
| Glycerin | E | E | E | E | E | E | E | Lactose | G | C | - | G | C | G | G | |
| Glycerol | E | E | E | E | E | E | E | Lard Oil | E | G | G | E | E | E | E | |
| Glycol | E | E | - | E | G | G | E | Latex, (1% Styrene and Butadiene) | G | C | E | E | - | E | E | |
| Glycol Amine | E | C | - | G | G | U | C | Lauryl Chloride | U | U | - | - | - | - | - | |
| Glycolic Acid | E | E | E | E | - | - | - | Lavender Oil | G | U | - | - | - | - | - | |
| Grease | E | E | E | E | E | E | E | Lead Acetate | G | G | E | G | E | E | U | |
| Green Sulfate Liquor | G | G | - | E | G | U | U | Lead Nitrate | E | E | - | G | E | - | - | |
| Halowax Oil | U | U | - | - | - | - | - | Lead Sulfamate | G | E | E | C | - | - | C | |
| Heptane | E | G | E | E | E | E | E | Lead Sulfate | E | E | - | - | - | - | - | |
| Hexaldehyde | U | E | - | - | - | - | - | Lecithin | U | U | - | G | C | C | C | |
| Hexane | E | G | G | E | E | E | E | | | | | | | | | |
| Hexanol, Tertiary | G | U | - | E | E | E | E | | | | | | | | | |
| Hexyl Alcohol | E | G | E | E | G | E | E | | | | | | | | | |
| Hexylene Glycol | E | E | - | - | - | - | - | | | | | | | | | |

E = Excellent G = Good C = Conditional U = Unsatisfactory - = Test Data Not Available



AB&I Foundry Chemical Resistance Guide

| AGENT | NITRILE | NEOPRENE | EPOXY | STAINLESS STEEL | DUCTILE/CAST IRON | BRONZE | ALUMINUM | AGENT | NITRILE | NEOPRENE | EPOXY | STAINLESS STEEL | DUCTILE/CAST IRON | BRONZE | ALUMINUM |
|--------------------------------------|---------|----------|-------|-----------------|-------------------|--------|----------|------------------------------------|---------|----------|-------|-----------------|-------------------|--------|----------|
| Lime Bleach | E | G | E | E | E | E | U | Methylamine | U | U | - | E | G | U | E |
| Lime and H2O | E | G | E | E | E | E | U | Methylene Chloride | U | U | E | G | E | E | E |
| Linoleic Acid | G | U | - | - | - | - | - | Methylene Dichloride | U | U | - | - | - | - | - |
| Linseed Oil | E | G | E | E | E | E | G | Milk | E | E | E | E | U | C | E |
| Lubricating Oils, (Petroleum) | E | G | E | E | E | E | E | Mineral Oils | E | G | E | E | E | E | E |
| Lubricating Oil, Refined (Petroleum) | E | G | E | E | E | E | E | Mineral Spirits | E | C | - | G | G | G | E |
| Lubricating Oil, Sour (Petroleum) | U | U | - | - | - | - | - | Mixed Acids, (Cold) | U | U | - | G | C | U | U |
| Lubricating Oil, (Up to 180°F) | E | C | E | E | E | E | E | Molasses, Crude | E | E | E | E | E | E | G |
| Lubricating Oil, (180 F to 200°F) | G | C | E | E | E | E | E | Molasses, Edible | E | E | E | E | C | E | E |
| Ludox | G | G | - | G | G | U | U | Monobromobenzene | U | U | - | - | - | - | - |
| Lye Solution | G | G | - | - | - | - | - | Monochlorobenzene | U | U | - | - | - | - | - |
| Magnesium Bisulfate | G | G | - | E | G | G | G | Monomethylether | U | U | - | - | - | - | - |
| Magnesium Bisulfide | G | G | - | G | U | U | C | Morpholine | U | U | - | E | G | G | G |
| Magnesium Carbonate | G | G | E | E | G | G | G | Naptha | G | C | E | E | E | G | E |
| Magnesium Chloride | E | E | E | E | U | C | U | Napthalene | U | U | E | E | E | C | G |
| Magnesium Hydroxide | G | G | E | E | E | E | C | Naphthenic Acid | G | U | - | E | - | - | - |
| Magnesium Hydroxide, Hot | G | G | - | E | G | U | U | Nickel Acetate, (Up to 10%, 100°F) | G | G | - | G | - | - | - |
| Magnesium Nitrate | E | G | E | E | U | U | C | Nickel Chloride | E | E | E | C | U | U | U |
| Magnesium Oxide | E | E | E | E | E | E | - | Nickel Nitrate | E | E | - | E | - | - | - |
| Magnesium Sulfate | E | E | E | G | E | C | G | Nickel Plating Solution | - | - | E | C | - | - | - |
| Maleic Acid | U | U | E | G | E | E | G | Nickel Sulfate | E | E | E | G | U | C | U |
| Maleic Anhydride | U | U | E | - | - | - | E | Nicotinic Acid | U | U | - | E | C | E | E |
| Malic Acid | E | G | - | E | - | E | G | Niter Cake | E | E | - | - | - | - | - |
| Malt Beverages | E | E | - | E | - | - | - | Nitric Acid, (Up to 10%, 75°F) | U | G | E | E | U | U | U |
| Manganese Carbonate | G | - | - | G | - | - | B | Nitric Acid, (10-70%, 75°F) | U | U | U | E | U | U | U |
| Manganese Sulfate | G | G | - | E | U | G | G | Nitric Acid, Red Fuming | U | U | U | E | U | U | U |
| Meat Juices | G | G | - | E | - | U | G | Nitrobenzene | U | U | C | E | C | C | E |
| Melamine Resins | G | G | E | C | U | U | - | Nitroethane | U | C | - | - | - | - | - |
| Mercuric Chloride | E | E | E | C | U | U | U | Nitromethane | U | C | - | - | - | - | - |
| Mercuric Cyanide | G | G | E | G | - | U | U | Nitropropane | U | U | - | - | - | - | - |
| Mercurous Nitrate | G | - | - | E | - | - | - | Nitrous Acid, (10%) | C | E | - | G | U | U | U |
| Mercury | E | E | E | E | E | U | C | Octyl Alcohol | G | E | E | E | E | E | E |
| Mesityl Oxide | U | U | - | - | - | - | - | Oil, Motor | E | G | E | E | E | E | E |
| Methane | E | G | - | E | G | E | E | Oil, Petroleum Refined | E | G | E | E | E | E | E |
| Methyl Acetate | U | G | U | E | - | E | E | Oil, Petroleum Sour | U | U | - | E | C | C | E |
| Methyl Acetone | U | U | - | E | E | E | E | Oil, Water Mixture | E | E | - | E | G | E | E |
| Methyl Alcohol (Methanol) | E | E | G | E | E | E | E | Olaic Acid | U | U | - | G | - | - | G |
| Methyl Bromide, (100%) | G | U | - | G | U | C | C | Oleic Acid | C | C | E | G | C | C | G |
| Methyl Cellulose | G | G | - | E | - | - | - | Oleum | U | U | - | G | U | C | G |
| Methyl Chloride | U | U | E | E | E | C | U | Oleum Spirits | G | C | U | G | - | U | G |
| Methyl Cyclopentane | U | U | - | - | - | - | - | Olive Oil | E | G | E | E | G | E | E |
| Methyl Ethyl Ketone | U | U | C | E | E | E | E | Oxalic Acid | G | G | E | G | C | E | G |
| Methyl Formate | U | G | - | - | - | - | - | Paints & Solvents | U | U | - | E | E | E | E |
| Methyl Isobutyl Ketone | U | U | C | E | E | C | E | Palm Oil | G | G | E | E | C | G | E |
| Methyl Isobutyl Carbinol | E | E | - | - | - | - | - | Paper Pulp | G | G | - | E | G | G | U |
| Methyl Methacrylate | U | U | E | - | - | - | - | Paraffin | E | C | E | E | G | E | E |
| Methyl Salicylate | U | U | - | - | - | - | - | Paraformaldehyde | G | G | - | G | G | G | G |

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AB&I Foundry Chemical Resistance Guide

| AGENT | | | | | | | AGENT | | | | | | | | |
|---|---------|----------|-------|-----------------|-------------------|--------|-------|---|---------|----------|-------|-----------------|-------------------|--------|----------|
| | NITRILE | NEOPRENE | EPOXY | STAINLESS STEEL | DUCTILE/CAST IRON | BRONZE | | ALUMINUM | NITRILE | NEOPRENE | EPOXY | STAINLESS STEEL | DUCTILE/CAST IRON | BRONZE | ALUMINUM |
| Pentane | E | G | E | C | G | C | E | Potassium Phosphate | E | E | - | G | C | C | U |
| Perchloric Acid | U | G | - | - | - | - | - | Potassium Phosphate Di-Basic | E | E | - | E | E | G | G |
| Perchloroethylene | C | U | U | E | E | U | G | Potassium Phosphate Tri-Basic | G | G | - | G | E | - | U |
| Phenylbenzene | U | U | - | - | - | - | - | Potassium Silicate | E | E | - | - | - | - | - |
| Phenyl Ethyl Ether | U | U | - | - | - | - | - | Potassium Sulfate | E | E | E | G | E | C | U |
| Phosphate Ester, (10%) | U | E | - | E | E | U | U | Potassium Sulfide | E | G | - | E | G | G | G |
| Phosphoric Acid, (50%, Cold) | G | G | G | G | U | U | U | Potassium Sulfite | G | G | - | E | G | G | G |
| Phosphoric Acid, (50%, Hot) | G | G | G | U | U | U | U | Potassium Thiosulfate | E | E | - | - | - | - | - |
| Phosphoric Acid, (85%, Cold) | C | C | - | E | G | U | U | Prestone | E | E | - | - | - | - | - |
| Phosphoric Acid, (85%, Hot) | C | C | - | G | C | U | U | Propyl Acetate | U | U | - | - | - | - | - |
| Phosphorous Anhydride | U | U | - | E | - | - | E | Propyl Alcohol (Propanol) | E | E | E | E | C | E | E |
| Phosphorous Trichloride | U | U | - | - | - | - | - | Propyl Bromide | G | G | - | G | G | G | G |
| Photographic Solutions | - | - | E | E | U | U | C | Propylene Dichloride | U | U | - | - | - | - | - |
| Phthalic Acid | C | C | - | G | C | G | G | Pyridine | U | U | E | G | E | U | G |
| Phthalic Anhydride | - | - | - | E | C | G | E | Pyrogallic Acid | E | E | - | G | G | G | G |
| Picric Acid | G | G | E | G | U | U | E | Pyroligeneous Acid | U | U | - | - | - | - | - |
| Pinene | G | C | - | - | - | - | - | Pyrrole | U | U | - | - | - | - | - |
| Pine Oil | G | U | E | E | C | U | E | Quench Oil | E | G | - | E | G | G | E |
| Pineapple Juice | E | E | - | E | C | C | E | Ref. Fuel B, (70 ISO Octane, 30 Toluene) | E | U | - | - | - | - | - |
| Piperidine | U | U | - | - | - | - | - | Resins & Rosins | C | C | - | E | C | E | E |
| Plating Solutions, Chrome | C | U | U | U | - | U | E | Roof Pitch | G | C | - | E | E | E | E |
| Polyvinyl Chloride | - | C | - | G | G | G | G | Rosin Emulsion | U | C | - | E | C | G | E |
| Potassium Acetate | G | G | - | - | E | - | - | Rosin Oil | G | G | E | E | - | E | G |
| Potassium Bicarbonate | E | E | E | G | E | U | U | RP-1 Fuel | G | C | - | E | E | E | E |
| Potassium Bichromate | E | E | - | E | - | - | - | Rubber Latex Emulsions | - | - | - | E | G | E | E |
| Potassium Bisulfate | G | G | - | E | - | - | G | Rubber Solvents | U | C | - | E | E | E | E |
| Potassium Bisulfite | E | E | - | G | U | C | C | Sal Ammoniac | E | E | - | - | - | - | - |
| Potassium Bromide | E | E | E | G | U | C | G | Salicylic Acid | G | C | - | E | - | - | - |
| Potassium Carbonate | E | E | E | G | E | U | U | Salad Oil | E | E | - | G | C | G | G |
| Potassium Chlorate | E | E | E | G | G | G | G | Salt Brine | E | U | - | G | U | G | G |
| Potassium Chloride | E | E | E | G | E | U | U | Sauerkraut Brine | - | - | - | G | - | - | - |
| Potassium Chromate | E | E | C | G | E | E | G | Sea Water | E | E | E | G | U | C | C |
| Potassium Cupro Cyanide | E | E | E | G | E | U | U | Secondary Butyl Alcohol | E | E | - | - | - | - | - |
| Potassium Cyanide | E | E | E | G | E | U | U | Selenic Acid | U | U | - | - | - | - | - |
| Potassium Dichromate | E | E | C | G | E | E | G | Sewage | E | G | - | E | E | C | C |
| Potassium Ferricyanide | E | E | - | E | - | - | - | Shellac | E | E | E | E | G | E | E |
| Potassium Ferrocyanide | E | E | E | G | - | E | G | Silicic Acid | U | U | - | - | - | - | - |
| Potassium Hydroxide | G | G | E | G | C | U | U | Silicone Fluids | G | G | E | G | G | G | G |
| Potassium Iodide | E | E | - | - | - | - | - | Silver Bromide | - | - | - | E | - | - | U |
| Potassium Nitrate | E | E | E | G | - | G | G | Silver Cyanide | G | G | - | E | U | U | U |
| Potassium Oxalate | - | - | - | E | - | - | C | Silver Nitrate | G | E | E | G | U | U | U |
| Potassium Perborate | E | E | - | - | - | - | - | Silver Plating Solution | E | E | E | E | - | - | - |
| Potassium Perchlorate | G | - | - | - | - | - | - | Soap Solutions | E | G | E | E | E | C | C |
| Potassium Permanganate, (Saturated to 10%) | - | - | E | E | E | C | G | Soda Ash, Sodium Carbonate | E | E | C | E | E | G | U |
| Potassium Permanganate, (Saturated 10-25%) | - | - | E | E | E | C | G | Sodium Acetate | G | G | E | G | C | E | G |
| Potassium Persulfate | E | E | - | - | - | - | - | Sodium Benzoate | E | E | - | G | - | - | G |
| | | | | | | | | Sodium Bicarbonate | E | E | E | G | C | E | U |

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AB&I Foundry Chemical Resistance Guide

| AGENT | NITRILE | NEOPRENE | EPOXY | STAINLESS STEEL | DUCTILE/CAST IRON | BRONZE | ALUMINUM | AGENT | NITRILE | NEOPRENE | EPOXY | STAINLESS STEEL | DUCTILE/CAST IRON | BRONZE | ALUMINUM |
|--|---------|----------|-------|-----------------|-------------------|--------|----------|---|---------|----------|-------|-----------------|-------------------|--------|----------|
| Sodium Bisulfate | E | E | E | G | U | C | U | Stannic Chloride | E | E | E | U | U | U | U |
| Sodium Bisulfite | E | E | E | G | U | C | U | Stannous Chloride, (Up to 15%) | E | E | E | U | U | U | U |
| Sodium Bisulphite, (Black Liquor) | E | E | - | E | U | G | U | Steam, (15 PSIG, 250°F) | U | U | U | E | G | - | - |
| Sodium Borate | E | E | E | G | C | E | C | Stearic Acid | G | G | G | E | C | C | G |
| Sodium Bromide | E | E | - | G | U | G | G | Stoddard Solvent | E | G | E | E | E | E | E |
| Sodium Carbonate | E | E | C | E | E | G | U | Styrene | U | U | E | E | G | E | E |
| Sodium Chlorate | E | E | E | G | C | G | C | Sucrose Solutions | E | E | E | E | G | E | E |
| Sodium Chloride | E | E | E | C | G | C | C | Sugar Liquid | E | E | E | E | G | E | E |
| Sodium Chromate | E | E | - | E | G | C | U | Sugar, Syrups & Jam | - | G | - | - | C | G | G |
| Sodium Cyanide | E | E | E | E | E | U | U | Sulfate, Black Liquor | C | G | E | G | C | C | C |
| Sodium Dichromate, (Up to 20%) | E | E | - | - | - | - | - | Sulfate, Green Liquor | C | G | E | G | C | C | G |
| Sodium Ferricyanide | E | E | - | E | - | - | E | Sulfate, White Liquor | C | G | E | G | C | C | G |
| Sodium Ferrocyanide | E | E | - | - | - | - | - | Sulfite Liquors | G | G | E | G | U | U | U |
| Sodium Fluoride | E | E | E | U | U | C | G | Sulfite Acid Liquor | - | - | - | - | - | - | - |
| Sodium Hydro Sulfide | E | E | - | - | - | C | E | Sulfonic Acid | U | U | - | - | - | - | - |
| Sodium Hydroxide, (20%, Cold) | E | E | - | E | E | E | U | Sulfur | U | E | - | E | E | - | - |
| Sodium Hydroxide, (20%, Hot) | G | G | - | E | G | E | U | Sulfur Chloride | U | U | C | U | U | U | U |
| Sodium Hydroxide, (50%, Cold) | E | E | - | E | G | E | U | Sulfur Dioxide, Dry | U | U | E | E | E | E | G |
| Sodium Hydroxide, (50%, Hot) | G | G | - | E | G | E | U | Sulfur Dioxide, Liquid | U | C | E | E | - | G | G |
| Sodium Hydroxide, (70%, Cold) | G | C | - | E | E | E | U | Sulfur Hexafluoride | E | G | - | E | - | G | E |
| Sodium Hydroxide, (70%, Hot) | U | U | - | E | G | G | U | Sulfur, Molten | U | C | - | G | G | U | E |
| Sodium Hypochlorite, (Up to 20%) | G | U | C | C | U | U | U | Sulfur Trioxide | U | U | - | G | G | G | - |
| Sodium Metaphosphate | E | G | E | E | U | C | C | Sulfur Trioxide, Dry | U | U | E | E | G | G | E |
| Sodium Metasilicate, Cold | G | E | - | E | C | G | G | Sulfuric Acid, (Up to 25%, 150°F Max.) | U | C | E | U | U | U | U |
| Sodium Metasilicate, Hot | - | - | - | E | C | G | G | Sulfuric Acid, (25-50%, 200°F Max.) | U | U | G | U | U | U | U |
| Sodium Nitrate | G | G | E | G | E | C | G | Sulfuric Acid, (50-95%, 150°F Max.) | U | U | C | U | U | U | U |
| Sodium Perborate | G | G | G | G | C | U | C | Sulfuric Acid, Fuming | U | U | U | U | U | U | U |
| Sodium Peroxide | G | G | C | E | C | U | C | Sulfurous Acid | G | G | E | G | U | U | C |
| Sodium Phosphate, Dibasic | E | G | - | C | - | - | - | Tall Oil | E | E | - | E | G | G | C |
| Sodium Phosphate, Monobasic | E | E | - | E | C | - | - | Tannic Acid, (All Conc., 150°F Max.) | E | E | E | E | C | E | C |
| Sodium Phosphate, Tribasic | E | E | - | E | C | - | - | Tanning Liquors, (50G Alum. Sol.) | G | U | - | G | - | - | E |
| Sodium Polyphosphate | G | U | E | G | - | C | U | Tanning Liquors, (50G Dichromate Sol.) | E | U | E | E | - | E | E |
| Sodium Salicylate | - | - | - | E | - | - | - | Tar, Bituminous | G | C | - | E | G | - | - |
| Sodium Silicate | E | E | E | E | E | E | U | Tartaric Acid | E | G | E | C | C | E | G |
| Sodium Silicate, Hot | - | - | - | G | C | C | C | Terephthalhalic Acid | - | - | - | - | - | - | - |
| Sodium Sulphate | E | E | E | G | E | C | E | Tertiary Butyl Alcohol | G | G | - | - | - | - | - |
| Sodium Sulphide | E | E | E | G | E | U | U | Tertiary Butyl Catechol | U | G | - | - | - | - | - |
| Sodium Sulfite Solutions, (Up to 20%) | E | E | E | G | E | C | C | Tertiary Butyl Mercaptan | U | U | - | - | - | - | - |
| Sodium Tetraborate | E | E | E | E | E | - | - | Tetrabutyl Titanate | G | G | - | - | - | - | - |
| Sodium Thiosulfate | G | E | E | G | C | U | G | Tetrachloroethylene | U | U | - | E | - | - | - |
| Sohovis 47 | G | - | - | - | - | - | - | Tetraethyl Lead | G | C | - | - | - | - | - |
| Sohovis 78 | G | - | - | - | - | - | - | Tetrafluoroethylene | - | - | - | - | - | - | - |
| Sovasol No. 1,2 and 3 | E | G | - | - | - | - | - | Tetrahydrofuran | U | U | E | E | U | U | U |
| Sovasol No. 73 and 74 | G | G | - | - | - | - | - | Tetralin | U | U | - | - | - | - | - |
| Soybean Oil | E | C | E | E | E | E | G | | | | | | | | |
| Spindle Oil | E | C | - | - | - | - | - | | | | | | | | |

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|---------------------------------------|---------|----------|-------|-----------------|-------------------|--------|----------|--|---------|----------|-------|-----------------|-------------------|--------|----------|
| Thionyl Chloride | U | U | - | - | - | - | - | Uric Acid | - | - | - | E | - | - | U |
| Thiophene | U | U | - | - | - | - | - | Varnish | C | G | E | E | C | E | E |
| Titanium Tetrachloride | C | U | - | E | - | - | - | Vegetable Oils | E | G | E | E | E | C | E |
| Toluene, (30%) | C | U | G | E | E | E | E | Versene | - | - | - | - | - | - | - |
| Tomato Juice | E | E | E | E | C | C | E | Vinagar | G | G | E | E | C | C | G |
| Transformer Oil | E | G | - | E | G | G | E | Vinyl Acetate | U | U | - | - | - | - | - |
| Transmission Fluid, Type A | E | G | - | - | - | - | - | Vinyl Chloride | U | U | - | E | - | - | - |
| Triacetin | G | G | - | - | - | - | - | Vi-Pex | G | - | - | - | - | - | - |
| Tributoxy Ethyl Phosphate | U | U | - | - | - | - | - | Water, (Up to 120°F) | E | E | E | E | E | E | E |
| Tributyl Phosphate | U | U | - | - | - | - | - | Water, (120 F to 200°F) | C | C | E | E | E | E | E |
| Trichloroethane | U | U | E | E | E | E | C | Water, (250°F) | U | U | E | E | E | E | E |
| Trichloroethylene, (Up to 200°F) | C | U | C | G | C | E | E | Water, Acid, Mine (Oxidizing & Non-Oxidizing) | G | G | E | E | C | C | C |
| Trichloroacetic Acid | C | U | - | U | U | G | U | Water, Bromine, (Up to 150°F) | U | U | - | - | - | - | - |
| Tricresyl Phosphate | U | U | - | - | - | - | - | Water, Chlorine | C | C | - | - | - | - | - |
| Tri Ethylene Glycol | - | - | - | - | - | - | - | Water, Deionized, (Up to 150°F) | C | C | E | E | U | U | E |
| Tri Ethylene Glycol Butyl Ether | - | - | - | - | - | - | - | Water, Sewage, (Up to 120°F) | E | C | E | - | E | - | - |
| Tri Ethylene Glycol Ethyl Ether | - | - | - | - | - | - | - | Waxes | E | G | - | E | E | E | E |
| Triethanol Amine | C | G | - | - | - | - | - | Whiskey & Wines | E | E | G | E | U | C | C |
| Triethanolamine | C | G | - | G | - | - | G | White Liquor | E | E | E | E | C | U | - |
| Triethylamine | G | G | E | G | E | G | - | Wood Oil | E | G | E | E | C | U | E |
| Trimethyl Propane | - | - | - | - | - | - | - | Xylene | U | U | E | E | E | E | E |
| Trisodium Phosphate | E | - | - | E | C | - | - | Xylol, (160°F Max.) | U | U | - | - | - | - | - |
| Tung Oil | E | G | - | - | C | - | - | Zeolites | E | E | - | - | - | - | - |
| Turbo Oil No. 15 Diester Lubricant | G | U | - | - | - | - | - | Zinc Acetate | G | G | - | E | - | - | - |
| Turpentine | E | U | G | E | G | C | E | Zinc Bromide | G | G | - | G | U | G | U |
| Urea | C | G | - | G | C | G | G | Zinc Chloride, to 50% | E | E | E | U | U | U | U |
| | | | | | | | | Zinc Hydrosulfite | E | E | - | E | G | C | U |

E = Excellent G = Good C = Conditional U = Unsatisfactory - = Test Data Not Available



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