

Muigrate® Chemical Resistant Chart

| Chemicals | Vinyl Ester | Vinyl Ester | Polyester | Polyester | Chemicals | Vinyl Ester | Vinyl Ester | Polyester | Polyester |
|----------------------------|-------------|-------------|-----------|-----------|----------------------------|-------------|-------------|-----------|-----------|
| | R.T | 165°F | R.T | 150°F | | R.T | 165° F | R.T | 150° F |
| Acetic Acid 0-25% | R | R | R | 125 | Chromic Acid 20% | R | 120 | - | - |
| Acetic Acid 25-50% | R | R | R | NR | Chromium Sulfate | R | R | R | R |
| Alcohol, Butyl | R | NR | NR | NR | Citric Acid | R | R | R | R |
| Alcohol, Ethyl 10% | R | 150 | - | - | Coconut Oil | R | R | R | NR |
| Alcohol, Ethyl 100% | R | NR | - | - | Copper Chloride | R | R | R | R |
| Alcohol, Isopropyl 10% | R | 150 | - | - | Copper Cyanide | R | R | NR | NR |
| Alcohol, Methyl 10% | R | 150 | - | - | Copper Nitrate | R | - | R | R |
| Alum | R | R | R | R | Copper Sulfate | R | R | R | R |
| Aluminum Chloride | R | R | R | 120 | Corn Oil | R | R | R | NR |
| Aluminum Hydroxide 5% | R | 120 | - | - | Corn Starch-Slurry | R | R | R | NR |
| Aluminum Nitrate | R | R | - | - | Corn Sugar | R | R | R | NR |
| Aluminum Potassium Sulfate | R | R | R | R | Cottonseed Oil | R | R | R | NR |
| Ammonia, Aqueous 0-10% | R | 100 | - | - | Crude Oil, Sour | R | R | R | NR |
| Ammonia, Gas | R | 100 | - | - | Crude Oil, Sweet | R | R | R | NR |
| Ammonium Bicarbonate | R | 120 | R | NR | Detergents, Sulfonated | R | R | R | NR |
| Ammonium Carbonate 10% | R | 120 | - | - | Dibutyl Ether | R | 120 | NR | NR |
| Ammonium Citrate | R | 120 | - | - | Diesel Fuel | R | R | R | NR |
| Ammonium Hydroxide 5% | R | 120 | R | NR | Dimethyl Phthalate | R | R | NR | NR |
| Ammonium Hydroxide 10% | R | 120 | NR | NR | Dipropylene Glycol | R | R | R | NR |
| Ammonium Hydroxide 20% | R | 120 | NR | NR | Esters, Fatty Acids | R | R | - | - |
| Ammonium Nitrate | R | R | R | R | Ethylene Dichloride | NR | NR | - | - |
| Ammonium Phosphate | R | 120 | NR | NR | Ethylene Glycol | R | R | R | R |
| Ammonium Sulfate | R | R | R | R | Fatty Acids | R | R | R | R |
| Barium Carbonate | R | R | R | NR | Ferric Sulfate | R | R | R | R |
| Barium Chloride | R | R | R | 200 | Ferrous Chloride | R | R | R | R |
| Barium Sulfate | R | R | R | R | Ferrous Sulfate | R | R | R | R |
| Barium Sulfide | R | R | NR | NR | Fertilizer: Urea Ammonia | R | 120 | - | - |
| Beer | R | 120 | R | NR | Flue Gas | R | R | - | - |
| Benzene Sulfonic Acid 30% | R | R | R | R | Fluoboric Acid 10% | R | 120 | NR | NR |
| Benzoic Acid | R | R | R | NR | Fluosilicic Acid 0-20% | R | R | NR | NR |
| Benzyl Alcohol | R | NR | NR | NR | Formaldehyde | R | R | R | NR |
| Butylene Glycol | R | R | R | R | Formic Acid 10% | R | R | R | NR |
| Butyric Acid 0-50% | R | R | R | NR | Fuel Oil | R | R | R | NR |
| Cadmium Chloride | R | R | R | NR | Gas, Natural | R | R | R | NR |
| Calcium Bisulfate | R | R | R | R | Gasoline, Auto | R | R | R | NR |
| Calcium Carbonate | R | R | R | NR | Gasoline Aviation | R | R | R | NR |
| Calcium Chlorate | R | R | R | R | Gasoline, Ethyl | R | R | R | NR |
| Calcium Chloride | R | R | R | R | Gasoline, Sour | R | R | R | NR |
| Calcium Hydroxide | R | 120 | R | NR | Glycolic, Acid | R | R | R | NR |
| Calcium Hypochlorite | R | 120 | R | NR | Glucose | R | R | R | R |
| Calcium Nitrate | R | R | R | R | Glycerine | R | R | R | R |
| Calcium Sulfate | R | R | R | R | Glycol, Propylene | R | R | R | R |
| Calcium Sulfite | R | R | R | R | Glycolic Acid 70% | R | R | R | NR |
| Carbon Dioxide | R | R | R | R | Hydraulic Fluid | R | R | R | NR |
| Carbon Monoxide | R | R | R | R | Hydrobromic Acid 0-25% | R | R | R | NR |
| Carbon Tetrachloride | R | 100 | - | - | Hydrochloric Acid 0-37% | R | R | - | - |
| Carbonic Acid | R | R | R | R | Hydrocyanic Acid | R | R | R | NR |
| Carbon Methyl Cellulose | R | 120 | - | - | Hydrofluosilicic Acid 10% | R | R | NR | NR |
| Chlorinated Wax | R | R | - | - | Hydrogen Bromide, Wet Gas | R | R | - | - |
| Chlorine Dioxide/Air | R | R | R | NR | Hydrogen Chloride, Dry Gas | R | R | - | - |
| Chlorine Dioxide, Wet Gas | R | R | - | - | Hydrogen Chloride, Wet Gas | R | R | NR | NR |
| Chlorine, Dry Gas | R | R | R | NR | Hydrogen Fluoride, Vapor | R | NR | R | 95 |
| Chlorine, Wet Gas | R | R | NR | NR | Hydrogen Peroxide 35% | R | 120 | R | 120 |
| Chlorine, Water | R | R | NR | NR | Hydrogen Sulfide Dry | R | R | R | 250 |
| Chloroacetic Acid 0-50% | R | 100 | NR | NR | Hydrogen Sulfide, Aqueous | R | R | - | - |

R.T : Room Temperature R : Resistant NR : Not Resistant

Muigrate® Chemical Resistant Chart

| Chemicals | Vinyl Ester | Vinyl Ester | Polyester | Polyester | Chemicals | Vinyl Ester | Vinyl Ester | Polyester | Polyester |
|--------------------------|-------------|-------------|-----------|-----------|-----------------------------|-------------|-------------|-----------|-----------|
| | R.T | 195°F | R.T | 150°F | | R.T | 195° F | R.T | 150° F |
| Hypochlorous Acid 0-10% | R | R | R | 104 | Sodium Bisulfate | R | R | R | R |
| Kerosene | R | R | R | 120 | Sodium Bromide | R | R | R | R |
| Lactic Acid | R | R | R | - | 200Sodium Carbonate 0-25% | R | R | R | NR |
| Lauroyl Chloride | R | R | - | - | Sodium Chlorate | R | R | R | NR |
| Lauric Acid | R | R | - | - | Sodium Chloride | R | R | R | NR |
| Lead Acetate | R | R | R | 160 | Sodium Chlorite 25% | R | R | R | NR |
| Lead Chloride | R | R | - | - | Sodium Cyanide | R | R | R | NR |
| Lithium Bromide | R | R | - | - | Sodium Ferricyanide | R | R | R | R |
| Lithium Sulfate | R | R | - | - | Sodium Fluoride | R | 120 | - | - |
| Magnesium Carbonate | R | R | R | 160 | Sodium Fluoro Silicate | R | 120 | - | - |
| Magnesium Chloride | R | R | R | 220 | Sodium Hydroxide 0-5% | R | 150 | R | R |
| Magnesium Hydroxide | R | 140 | - | - | Sodium Hydroxide 5-25% | R | 150 | - | - |
| Magnesium Nitrate | R | R | R | 160 | Sodium Hydroxide 50% | R | 150 | - | - |
| Magnesium Sulfate | R | R | R | 200 | Sodium Hydrosulfide | R | R | R | NR |
| Maleic Acid | R | R | - | - | Sodium Hypochlorite | R | 150 | R | NR |
| Mercuric Chloride | R | R | R | 212 | Sodium Nitrate | R | R | R | R |
| Mercurous Chloride | R | R | R | 212 | Sodium Silicate | R | R | R | NR |
| Methanol (See Alcohol) | R | R | - | - | Sodium Sulfate | R | R | R | R |
| Mineral Oils | R | R | R | 180 | Sodium Sulfite | R | R | R | NR |
| Molybdenum Disulfide | R | R | - | - | Sodium Tetraborate | R | R | R | R |
| Motor Oil | R | R | - | - | Sodium Thiocyanate | R | R | - | - |
| Nickel Chloride | R | R | R | NR | Sodium Thiosulfate | R | R | R | NR |
| Nickel Nitrate | R | R | R | R | Sodium Tripolyphosphate | R | R | R | NR |
| Nickel Sulfate | R | R | R | R | Sodium Solutions | R | R | R | NR |
| Nitric Acid 0-5% | R | R | R | R | Sodium Sulfite | R | R | R | NR |
| Nitric Acid 20% | R | 120 | - | - | Sodium Sulfite | R | R | R | NR |
| Nitric Acid Fumes | NR | NR | - | - | Soya Oil | R | R | R | R |
| Octanoic Acid | R | R | R | NR | Stannic Chloride | R | R | R | R |
| Oil, Sour Crude | R | R | R | R | Stannous Chloride | R | R | R | R |
| Oil, Sweet Crude | R | R | R | R | Stearic Acid | R | R | R | R |
| Oleic Acid | R | R | R | R | Sugar, Beet and Cane Liquor | R | R | R | NR |
| Olive Oil | R | R | R | R | Sugar, Sucrose | R | R | R | R |
| Oxalic Acid | R | R | R | R | Sulfamic Acid | R | R | R | NR |
| Phosphoric Acid | R | R | R | R | Sulfanilic Acid | R | R | - | - |
| Phosphoric Acid Fumes | R | R | R | R | Sulfur Dioxide, Dry or Wet | R | R | - | - |
| Phthalic Acid | R | R | R | R | Sulfuric Acid 0-30% | R | R | R | R |
| Polyvinyl Acetate Latex | R | R | R | NR | Sulfuric Acid 30-50% | R | R | NR | NR |
| Polyvinyl Alcohol | R | 100 | R | NR | Sulfuric Acid 50-70% | R | 120 | R | 150 |
| Polyvinyl Chloride Latex | R | 120 | - | - | Sulfurous Acid 10% | R | 100 | NR | NR |
| Potassium Carbonate | R | 140 | R | NR | Toluene Sulfonic Acid | R | R | - | - |
| Potassium Chloride | R | R | R | R | Trichloro Acetic Acid 50% | R | R | R | NR |
| Potassium Ferricyanide | R | R | R | R | Tridecylbenzene Sulfonate | R | R | R | NR |
| Potassium Hydroxide | R | 150 | - | - | Trisodium Phosphate | R | R | R | NR |
| Potassium Nitrate | R | R | R | R | Turpentine | R | 100 | - | - |
| Potassium Permanganate | R | 140 | R | NR | Urea | R | 140 | R | NR |
| Potassium Sulfate | R | R | R | R | Vegetable Oils | R | R | R | R |
| Propionic Acid 1-50% | R | 120 | - | - | Vinegar | R | R | R | R |
| Propionic Acid (50-100%) | NR | NR | - | - | Water: | | | | |
| Pulp Paper Mill Effluent | R | R | R | NR | Deionized, Demineralized | R | R | R | R |
| Selenious Acid | R | R | - | - | Distilled, Fresh, Salt, Sea | R | R | R | R |
| Soaps | R | R | R | NR | White Liquor (Pulp Mill) | R | R | R | NR |
| Sodium Acetate | R | R | R | NR | Xylene | NR | NR | NR | NR |
| Sodium Benzoate | R | R | R | NR | Zinc Chlorate | R | R | R | R |
| Sodium Bicarbonate | R | R | - | - | Zinc Chloride | R | 140 | R | 122 |
| Sodium Bifluoride | R | 120 | R | NR | Zinc Nitrate | R | R | R | R |
| | | | | | Zinc Sulfate | R | R | R | R |

R.T : Room Temperature R : Resistant NR : Not Resistant