

Thermowell Corrosive Service Guide

| Corrodent | Temp. °F | Conc. % | Recommended Material |
|-------------------------------------|----------------------|---------|----------------------|
| Acetic Acid | 212 | All | Monel |
| Acetic Anhydride | 300 | | Nickel |
| Acetone | 212 | All | 304 SS |
| Acetylene | 400 | | 304 SS |
| Alcohols | 212 | All | 304 SS |
| Alum (Potassium or Sodium) | 300 | All | Hast. C |
| Aluminum Chloride | 212 | All | Hast. B |
| Aluminum Sulfate | 212 | All | 316 SS |
| Ammonia, Dry | 212 | All | 304 SS, 316 SS |
| Ammonium Chloride | 300 | 50% | Monel |
| Ammonium Hydroxide (Ammonia, Aqua) | 212 | All | 304 SS, 316 SS |
| Ammonium Nitrate | 300 | All | 304 SS |
| Ammonium Sulfate | 212 | All | 316 SS |
| Amyl Acetate | 300 | All | 304 SS |
| Aniline | 75 | | Monel |
| Asphalt | 250 | | 304 SS |
| Atmosphere, (Industrial and Marine) | | | 304 SS |
| Barium Compounds | See Calcium | | |
| Beer | 70 | | 304 SS |
| Benzene (Benzol) | 212 | | Steel |
| Benzoic Acid | 212 | All | 316 SS |
| Bleaching Powder | 70 | 15% | Monel |
| Borax | 212 | All | Brass |
| Bordeaux Mixture | 200 | | 304 SS |
| Boric Acid | 400 | All | 316 SS |
| Bromine | 125 | Dry | Monel |
| Butane | 400 | All | Steel |
| Butyl Alcohol | See Alcohols | | |
| Butyric Acid | 212 | | Hast. C |
| Calcium Bisulphite | 75 | All | Hast. C |
| Calcium Chloride | 212 | All | Hast. C |
| Calcium Hydroxide | 300 | 20% | Hast. C |
| Calcium Hypochlorite | See Bleaching Powder | | |
| Carbolic Acid | See Phenol | | |
| Carbon Dioxide, Dry | 800 | All | Brass |
| Carbon Disulfide | 200 | | 304 SS |
| Carbon Tetrachloride | 125 | All | Monel |
| Carbonated Beverages | 212 | | 304 SS |
| Carbonated Water | 212 | All | 304 SS |
| Chloracetic Acid | 212 | All | Monel |
| Chlorine, Dry | 100 | | Monel |
| Chlorine, Moist | 100 | All | Monel |
| Chloroform, Dry | 212 | | Monel |
| Chromic Acid | 300 | All | Hast. C |
| Cider | 300 | All | 304 SS |
| Citric Acid | 212 | All | Hast. C |
| Copper (10) Chloride | 212 | All | Hast. C |
| Copper (10) Nitrate | 300 | All | 316 SS |
| Copper (10) Sulfate | 300 | All | 316 SS |
| Copper Plating Solution (Acid) | 75 | | 304 SS |
| Copper Plating Solution (Cyanide) | 180 | | 304 SS |
| Corn Oil | 200 | | 304 SS |
| Creosote | 200 | All | 304 SS |
| Crude Oil | 300 | | Monel |
| Ethanol | See Alcohols | | |
| Ethyl Acetate | See Lacquer Thinner | | |
| Ethyl Chloride, Dry | 500 | | Steel |
| Ethylene Glycol (Uninhibited) | 212 | All | 304 SS |
| Ethylene Oxide | 75 | | Steel |
| Fatty Acids | 500 | All | 316 SS |
| Ferric Chloride | 75 | All | Hast. C |
| Ferric Sulfate | 300 | All | 304 SS |
| Formaldehyde | 212 | 40% | 316 SS |
| Formic Acid | 300 | All | 316 SS |
| Fluorine, Anhydrous | 100 | | 304 SS |
| Freon | 300 | | Steel |
| Furfural | 450 | | 316 SS |
| Gasoline | 300 | | Steel |
| Glucose | 300 | | 304 SS |
| Glue ph 6-8 | 300 | All | 304 SS |
| Glycerine | 212 | All | Brass |
| Hydrobromic Acid | 212 | All | Hast. C |

| Corrodent | Temp. °F | Conc. % | Recommended Material |
|--------------------------------|----------------------|---------|----------------------|
| Hydrochloric Acid (37-38%) | 225 | All | Hast. B |
| Hydrocyanic Acid | 212 | All | 304 SS |
| Hydrofluogilicic Acid | 212 | 40% | Monel |
| Hydrofluoric Acid | 212 | 60% | Monel |
| Hydrogen Chloride, Dry | 500 | | 304 SS |
| Hydrogen Fluoride, Dry | 175 | | Steel |
| Hydrogen Peroxide | 125 | 10-100% | 304 SS |
| Kerosene | 300 | All | Steel |
| Lacquers & Thinners | 300 | All | 304 SS |
| Lactic Acid | 300 | All | 316 SS |
| Lime | 212 | All | 316 SS |
| Linseed Oil | 75 | | Steel |
| Magnesium Chloride | 212 | 50% | Nickel |
| Magnesium Hydroxide (or Oxide) | 75 | All | 304 SS |
| Magnesium Sulfate | 212 | 40% | 304 SS |
| Mercuric Chloride | 75 | 10% | Hast. C |
| Mercury | 700 | 100% | Steel |
| Methyl Chloride, Dry | 75 | | Steel |
| Methylene Chloride | 212 | All | 304 SS |
| Milk, fresh or sour | 180 | | 304 SS |
| Molasses | See Glucose | | |
| Natural Gas | 70 | | 304 SS |
| Nitric Acid | 75 | All | 304 SS |
| Nitric Acid | 110 | All | 316 SS |
| Oleic Acid | See Fatty Acids | | |
| Oxalic Acid | 212 | All | Monel |
| Oxygen | 75 | All | Steel |
| Palmitic Acid | See Fatty Acids | | |
| Phenol | 212 | All | 316 SS |
| Phosphoric Acid | 212 | All | 316 SS |
| Photographic Bleaching | 100 | All | 304 SS |
| Potassium Compounds | See Sodium Compounds | | |
| Propane | 300 | | Steel |
| Rosin | 700 | 100% | 316 SS |
| Salt or Brine | See Sodium Chloride | | |
| Sea Water | 75 | | Monel |
| Soap & Detergents | 212 | All | 304 SS |
| Sodium Bicarbonate | 212 | 20% | 316 SS |
| Sodium Bisulfate | 212 | 20% | 304 SS |
| Sodium Bisulfite | 212 | 20% | 304 SS |
| Sodium Carbonate | 212 | 40% | 316 SS |
| Sodium Chloride | 300 | 30% | Monel |
| Sodium Chromate | 212 | All | 316 SS |
| Sodium Cyanide | 212 | All | 304 SS |
| Sodium Hydroxide | 212 | 30% | 316 SS |
| Sodium Hypochlorite | 75 | 10% | Hast. C |
| Sodium Nitrate | 212 | 40% | 304 SS |
| Sodium Nitrite | 75 | 20% | 316 SS |
| Sodium Phosphate | 212 | 10% | Steel |
| Sodium Silicate | 212 | 10% | Steel |
| Sodium Sulfate | 212 | 30% | 316 SS |
| Sodium Sulfide | 212 | 10% | 316 SS |
| Sodium Sulfite | 212 | 30% | 304 SS |
| Sodium Thiosulfate | 212 | All | 304 SS |
| Steam | | | 304 SS |
| Stearic Acid | See Fatty Acids | | |
| Sugar Solutions | See Glucose | | |
| Sulfur | 500 | | 304 SS |
| Sulfur Chloride | 75 | Dry | 316 SS |
| Sulfur Dioxide | 500 | Dry | 316 SS |
| Sulfur Trioxide | 500 | Dry | 316 SS |
| Sulfuric Acid | 212 | 10% | 316 SS |
| Sulfuric Acid | 212 | 10-90% | Hast. B |
| Sulfuric Acid | 212 | 90-100% | Hast. B |
| Sulfuric Acid, Fuming | 175 | | Carp. 20 |
| Sulfurous Acid | 75 | 20% | 316 SS |
| Tannic Acid | 75 | 40% | Hast. B |
| Titanium Tetrachloride | 75 | All | 316 SS |
| Toluene | 75 | | Steel |
| Trichloroacetic Acid | 75 | All | Hast. B |
| Trichlorethylene | 300 | Dry | Monel |
| Turpentine | 75 | | 316 SS |
| Varnish | 150 | | Steel |
| Zinc Chloride | 212 | All | Hast. B |
| Zinc Sulfate | 212 | All | 316 SS |

This information is given as a guide only. Final material selection should be made by the user based on their knowledge of the application.