



TECHNICAL DATA

MATERIAL SELECTION GUIDE FOR THERMOWELL APPLICATIONS

Chemical	Temp. °F	Concentration %	Recommended Material
Acetic Acid	212	All	Monel, 430 SS
Acetic Anhydride	300	-	Nickel, Monel
Acetone	212	All	304 SS
Acetylene	400	All	304 SS, Monel, Nickel
Alcohols (Methyl, Ethyl)	212	All	304 SS
Aluminum (Potassium or Sodium)	300	All	Hastelloy - C
Aluminum Acetate	-	Sat.	304 SS
Aluminum Chloride	212	All	Hastelloy - B
Aluminum Sulfate	212	All	316 SS
Ammonia, Dry	212	All	304, 316 SS
Ammonium Hydroxide (Ammonia, Aqua)	212	All	304, 316 SS
Ammonium Chloride	300	50	Monel
Ammonium Nitrate	300	All	304 SS
Ammonium Sulfate	212	All	316 SS
Amyl Acetate	300	All	304 SS, Monel
Aniline	75	All	Monel
Asphalt	250	All	304 SS
Barium Compound	70	All	Hastelloy - C
Beer	70	-	304 SS
Benzene (Benzol)	212	-	Steel (C1018)
Benzine	-	-	Steel (C1018)
Benoic Acid	212	All	316 SS
Bleaching Powder	70	20	Monel
Borax	212	All	Brass
Bordeaux Mixture	200	-	304 SS
Boric Acid	212	All	316 SS
Bromine	125	Dry	Monel, Tantalum
Butabien	-	All	Brass, 304 SS
Butane	70	All	Steel, 304 SS
Butyl Alcohol	212	All	304 SS
Butyric Acid	70	5	Hastelloy - C, 304 SS
Calcium Bisulphite	75	All	Hastelloy - C, 316 SS
Calcium Chloride	212	All	Hastelloy - C, 304 SS
Calcium Hydroxide	212	50	Hastelloy - C, 317 SS
Calcium Hypochlorite	70	20	Monel
Carbolic Acid	212	All	316 SS
Carbon Dioxide, Dry	212	All	Brass, Steel (C1018)
Carbonated Water	212	All	304 SS
Carbonated Beverages	212	All	304 SS
Carbon Disulfide	200	-	304 SS
Carbon Tetrachloride	70	All	Monel

Chemical	Temp. °F	Concentration %	Recommended Material
Chlorine, Dry	-	100	Monel
Chlorine, Moist	212	All	Hastelloy - C
Chloroacetic Acid	212	All	Monel
Chloroform, Dry	212	-	Monel
Chromic Acid	212	50	Hastelloy - C, 316 SS
Cider	212	All	304 SS
Citric Acid	212	All	Hastelloy - C, 316 SS
Coal Tar	212	-	304 SS
Copper (10) Chloride	212	All	Hastelloy - C
Copper (10) Nitrate	300	All	316 SS
Copper (10) Sulfate	300	All	316 SS
Copper Plating Solution (Cyanide)	180	-	304 SS
Copper Plating Solution (Acid)	75	-	304 SS
Corn Oil	300	-	304 SS
Cottonseed Oil	300	-	304 SS
Creosote, Crude	200	All	304 SS, Monel
Crude Oil	300	-	Monel
Ethyl Acetate	300	All	Monel
Ethyl Chloride, Dry	500	-	Steel
Ethylene Glycol	212	All	Steel
Ethylene Oxide	75	-	Steel
Fatty Acids	500	All	316 SS
Ferric Chloride	75	All	Hastelloy-C, Tantalum
Ferric Sulfate	70	All	304 SS
Formaldehyde	212	All	316 SS
Formic Acid	150	All	316 SS
Freon	-	-	Steel
Fluorine, Anhydrous	100	-	304 SS
Furfural	450	-	316 SS
Gallic Acid	150	5	Monel
Gasoline	70	-	Steel, 304 SS
Glucose	300	All	304 SS
Glue pH 6-8	300	All	304 SS
Glycerin	212	All	Brass, 304 SS
Glycerol	-	-	Brass, 304 SS
Hydrobromic Acid	212	All	Hastelloy - B
Hydrochloric Acid (37-38%)	225	All	Hastelloy - B
Hydrogen Chloride, Dry	300	-	304 SS
Hydrocyanic Acid	212	All	316 SS
Hydrofluoric Acid	212	60	Monel, Hastelloy - C
Hydrogen Fluoride, Dry	175	-	Steel



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Hydrofluogilicic Acid	212	40	Monel
Hydrogen Peroxide	212	10-100	316 SS
Iodine	70	All	Tantalum
Kerosene	70	-	Steel, 304 SS
Lacquers & Thinners	300	All	Monel
Lactic Acid	212	All	316 SS, Tantalum
Lime	212	All	316 SS
Linseed Oil	75	-	Steel, 304 SS
Magnesium Chloride	212	50	Nickel
Magnesium Hydroxide	75	All	304 SS
Magnesium Sulfate	212	40	304 SS
Malic Acid	212	All	316 SS
Mercuric Chloride	75	10	Hastelloy - C
Mercury	-	-	Steel, 304 SS
Methane	70	All	Steel
Methylene Chloride	212	All	304 SS
Methyl Chloride, Dry	75	-	Steel
Milk, Fresh, or Sour	180	-	304 SS, Nickel
Molasses	300	All	304 SS
Natural Gas	70	-	304 SS
Nitric Acid	75	All	304 SS
Nitric Acid	300	All	316 SS, Tantalum
Nitrobenzene	70	-	304 SS
Oxygen	70	All	Steel
Oleic Acid	500	All	316 SS
Oxalic Acid	212	All	Monel
Palmitic Acid	500	All	316 SS
Photographic Bleaching	100	All	304 SS
Phosphoric Acid	212	All	316 SS
Phenol		All	316 SS
Potassium Compounds		See Sodium Compounds	
Propane	70	All	Steel
Rosin	700	100	316 SS
Sea Water	212	-	Monel
Soap & Detergents	212	All	304 SS
Sodium Bicarbonate	212	20	316 SS
Sodium Bisulphite	212	20	304 SS
Sodium Bisulfate	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	Hastelloy - C

Chemical	Temp. °F	Concentration %	Recommended Material
Sodium Nitrate	212	40	304 SS
Sodium Nitrate	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	500	All	316 SS
Sugar Solutions	300	All	304 SS
Sulfur	500	-	304 SS
Sulfur Chloride, Dry	75	-	316 SS
Sulfur Dioxide, Dry	500	-	316 SS
Sulfur Trioxide, Dye	500	-	316 SS
Sulfuric Acid	212	5	Hastelloy - B
Sulfuric Acid	212	5-100	Hastelloy - B, Hastelloy - D
Sulfuric Acid, Fuming	175	-	Hastelloy - C
Sulfurous Acid	75	20	316 SS
Titanium Tetrachloride	75	All	316 SS
Tannic Acid	75	40	Hastelloy - B
Toluene	75	-	Steel
Trichloroacetic Acid	75	All	Hastelloy - B
Trichlorethylene	-	-	Steel (C1018)
Turpentine	75	All	316 SS
Varnish	150	-	Steel, 304 SS
Vinegar	212	All	Monel, 304 SS
Zinc Chloride	212	All	Hastelloy - B
Zinc Sulfate	212	All	316 SS