



### Chemical Compatibility Guide

SOLUTION	TYPE OF HEATER	SOLUTION	TYPE OF HEATER
Isoprep Acid Salts .....	PTFE	Silver Lume .....	304 Stainless Steel
Jetal .....	304 Stainless Steel	Silver Nitrate .....	316 Stainless Steel
Lead Acetate .....	304 Stainless Steel	Sodium Bisulfate .....	PTFE or Quartz
<b>Lime Saturated Water (Alkaline) .....</b>	<b>316 Stainless Steel</b>	Sodium Carbonate .....	Titanium
Linseed Oil .....	304 Stainless Steel	Sodium Chlorate .....	Titanium
<b>Magnesium Hydroxide .....</b>	<b>304 Stainless Steel</b>	Sodium Chloride .....	Titanium
Magnesium Nitrate .....	PTFE or Quartz	Sodium Cyanide .....	304 Stainless Steel
<b>Manganese Phosphate .....</b>	<b>316 Stainless Steel</b>	Sodium Dichromate (Hot Seal) .....	316 Stainless Steel
McDermid 629 .....	PTFE	Sodium Hydroxide .....	Steel
Mercuric Chloride .....	Titanium	Sodium Hypochlorite .....	PTFE
Muriatic Acid .....	PTFE or Quartz	Sodium Persulfate .....	PTFE or Quartz
Nickel (Plating Solution) (Watts) .....	PTFE, Quartz or Titanium	Stannate .....	Steel
Nickel Acetate Seal .....	316 Stainless Steel	Stanostar .....	PTFE or Quartz
Nickel Chloride .....	Titanium	Stearic Acid .....	Quartz
Nitric Acid .....	PTFE or Quartz	Sulfamate Nickel .....	PTFE, Quartz or Titanium
Nitric Hydrochloric Acids .....	PTFE or Quartz	Sulfur .....	PTFE or Quartz
<b>Nitric Phosphoric .....</b>	<b>Quartz</b>	Sulfur Peroxide .....	PTFE or Quartz
<b>Oil .....</b>	<b>Steel</b>	Sulfuric Acid .....	PTFE or Quartz
Oleic Acid .....	PTFE or Quartz	Sulphamic Acid .....	PTFE or Quartz
Oxalic Acid .....	PTFE or Quartz	Tannic Acid .....	Titanium
<b>Paint Stripper (Alkaline) .....</b>	<b>304 Stainless Steel</b>	Tin Nickel .....	PTFE
<b>Perchlorethylene .....</b>	<b>316 Stainless Steel</b>	Tin Plating (Acid) (Fluoborate) .....	PTFE
<b>Phosphate .....</b>	<b>316 Stainless Steel</b>	Tin Plating (Acid) (Stanus/Sulphate) .....	PTFE or Quartz
<b>Phosphate Cleaner .....</b>	<b>304 Stainless Steel</b>	Tin Plating (Alkaline) .....	304 Stainless Steel
<b>Phosphoric Acid (No Fluoride) .....</b>	<b>PTFE or Quartz</b>	<b>Trichlorethylene .....</b>	<b>316 Stainless Steel</b>
Potassium Acid Sulfate .....	PTFE or Quartz	Trioxide (Pickle) .....	PTFE or Quartz
Potassium Cyanide .....	304 Stainless Steel	<b>Turco (4181, 4338) .....</b>	<b>316 Stainless Steel</b>
Potassium Hydrochloric .....	PTFE or Quartz	Unichrome .....	PTFE or Quartz
Potassium Hydroxide .....	304 Stainless Steel	Water .....	316 Stainless Steel or Quartz
<b>Potassium Permanganate .....</b>	<b>PTFE or Titanium</b>	Wood's Nickel Strike .....	PTFE, Quartz or Titanium
Rhodium .....	PTFE or Quartz	Yellow Dichromate .....	PTFE or Quartz
Rochelle Salt Cyanide .....	304 Stainless Steel	Zinc Acid .....	PTFE or Titanium
Ruthenium .....	PTFE or Quartz	Zinc Ammonium Chloride .....	Quartz or Titanium
Salt (Actine) .....	PTFE	Zinc Cyanide .....	304 Stainless Steel
Sea Water .....	Titanium	<b>Zinc Phosphate .....</b>	<b>316 Stainless Steel</b>
Silver Bromide .....	316 Stainless Steel	Zinc Phosphate (Fluoride) .....	PTFE
Silver Cyanide .....	304 Stainless Steel	Zincate .....	304 Stainless Steel

Solutions requiring derated heaters are indicated in red type.

PTFE is the abbreviation for PolyTetraFluoroEthylene.



**Note:** The data listed is provided as a reference and is offered as a guide only. It is not intended to be used as the sole basis of design or to establish specification limits. **Tempco Electric Heater Corporation** assumes no obligation or liability for any advice furnished by it or for results obtained from its use. Due to the complexities of solutions and applications, it is the customer's responsibility to contact their chemical supplier for heater material compatibility and recommendations. Ultimate responsibility lies with the user.

**Do not use electric immersion heaters to heat flammable solutions!**



Please insure applicability of heater before installation since we cannot guarantee heaters against premature failure due to corrosion or chemical destruction caused by unusual conditions over which we have no control such as:

- Excessively high solution temperatures
- The concentration of the solution
- The presence of inhibitors
- The presence of other acids causing a secondary reaction
- Stray electrical currents
- Flux floating on the surface
- The presence of dissolved gases
- Excessive sludge buildup
- Aeration
- Stagnant or turbulent flow of the solution
- Presence of oxygen or an oxidizing agent in the solution
- Erosion
- High Pressures or Vacuum Conditions