

**ThalesNano Inc.**  
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## Chemical Compatibility Results

### H-Cube Midi Solvent Resistance

#### Chemical rating key:

**A=** Little to no Interaction  
**B=** Slight Interaction  
**C=** Not Recommended

Please do not use acetic acid with Raney Ni.

Please note that cyclohexane, toluene and methylene chloride are not recommended solvents as they can interact with the sealing of the HPLC pump.

TFA compatibility with SS316:at 71 °C (30-day test): 0.07 Mils/yr ([Source](#))

Please note that AcCN should not be used as solvent since it may get hydrogenated instead or parallel with your starting material.

Chemical	Rating Stainless Steel	Rating Teflon	Notes
Abetic Acid		<b>A</b>	
Acetic Acid		<b>A</b>	
Acetic Acid, 100 percent	<b>A</b>		Elevated Temperatures May Reduce Resistance
Acetic Acid, 20 percent	<b>A</b>		
Acetic Acid, 60 percent	<b>A</b>		
Acetic Acid, 95 percent	<b>A</b>		
Acetic Acid, Glacial		<b>A</b>	
Acetic Anhydride	<b>B</b>	<b>A</b>	
Acetone	<b>A</b>	<b>A</b>	
Acetophenone		<b>A</b>	
Acetylene	<b>A</b>		
Acrylic Anhydride		<b>A</b>	
Aluminum Acetate, 100 percent	<b>B</b>		
Aluminum Chloride	<b>C</b>	<b>A</b>	
Aluminum Hydroxide, 10 percent	<b>B</b>		
Aluminum Sulfate, 100 percent	<b>B</b>		
Aluminum Sulfate, 50 percent	<b>A</b>		
Aluminum, Molten	<b>C</b>		

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Allyl Acetate		<b>A</b>	
Allyl Methacrylate		<b>A</b>	
Ammonia, 100 percent	<b>A</b>		Elevated Temperatures May Reduce Resistance
Ammonia, 40 percent	<b>A</b>		Elevated Temperatures May Reduce Resistance
Ammonia, Liquid		<b>A</b>	
Ammonium Bicarbonate, 100 percent	<b>C</b>		
Ammonium Bicarbonate, 90 percent	<b>B</b>		
Ammonium Carbonate, All Concentrations	<b>B</b>		Elevated Temperatures May Reduce Resistance
Ammonium Chloride		<b>A</b>	
Ammonium Chloride, 10 percent	<b>B</b>		Elevated Temperatures May Reduce Resistance
Ammonium Chloride, 25 percent	<b>B</b>		Elevated Temperatures May Reduce Resistance
Ammonium Chloride, 50 percent	<b>C</b>		
Ammonium Hydroxide		<b>A</b>	
Ammonium Nitrate	<b>A</b>		
Ammonium Oxalate, 10 percent	<b>B</b>		
Ammonium Oxalate, 5 percent	<b>A</b>		
Ammonium Persulfate, 5 percent	<b>A</b>		
Ammonium Sulfate, 10 percent	<b>A</b>		
Ammonium Sulfite, 10 percent	<b>B</b>		
Amyl Acetate	<b>A</b>		
Amyl Chloride	<b>A</b>		
Aniline		<b>A</b>	
Aniline, 10 percent	<b>B</b>		
Aniline, 3 percent	<b>A</b>		
Aqua Regia		<b>A</b>	
Barium Carbonate	<b>B</b>		
Barium Chloride, 10 percent	<b>B</b>		
Barium Chloride, 5 percent	<b>A</b>		
Barium Nitrate	<b>B</b>		
Barium Sulfate	<b>B</b>		
Barium Sulfide, 100 percent	<b>B</b>		
Beer	<b>A</b>		
Benzaldehyde		<b>A</b>	
Benzene	<b>B</b>	<b>A</b>	
Benzoic Acid, 60 percent	<b>B</b>		

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Benzol	<b>A</b>		
Benzonitrile		<b>A</b>	
Benzoyl Chloride		<b>A</b>	
Benzyl Alcohol		<b>A</b>	Room Temperature Only
Borax		<b>A</b>	
Boric Acid		<b>A</b>	
Boric Acid, 10 percent	<b>A</b>		
Boric Acid, 100 percent	<b>B</b>		
Bromine		<b>A</b>	
Bromine Water	<b>C</b>		
Bromine, Anhydrous		<b>A</b>	Room Temperature Only
Butane			Room Temperature Only
Butanol			Room Temperature Only
Buttermilk	<b>A</b>		
Butyl Acetate	<b>A</b>	<b>A</b>	
Butyl Amine (n-)		<b>A</b>	
Butyl Methacrylate		<b>A</b>	
Butyric Acid, 100 percent	<b>B</b>		
Butyric Acid, 5 percent	<b>A</b>		
Calcium Carbonate, 100 percent	<b>B</b>		
Calcium Chlorate, 10 percent	<b>B</b>		
Calcium Chloride		<b>A</b>	
Calcium Chloride, 10 percent	<b>C</b>		
Calcium Hydroxide, 50 percent	<b>B</b>		
Calcium Hypochlorite, 2 percent	<b>A</b>		Subject To Pitting
Calcium Sulfate	<b>B</b>		
Carbolic Acid, 10 percent	<b>A</b>		Subject To Pitting
Carbolic Acid, 100 percent	<b>B</b>		Subject To Pitting
Carbon Bisulfide	<b>B</b>		
Carbon Disulfide		<b>A</b>	
Carbon Monoxide	<b>A</b>		
Carbon Tetrachloride	<b>B</b>	<b>A</b>	Elevated Temperatures Reduce Resistance (Teflon)
Carbonated Water	<b>A</b>		
Carbonic Acid	<b>B</b>		
Cetane		<b>A</b>	
Chlorabenzol Concentrate	<b>A</b>		
Chloric Acid	<b>C</b>		
Chlorinated Water, Saturated	<b>B</b>		Subject To Pitting
Chlorine		<b>A</b>	

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Chlorine Gas	<b>B</b>		
Chlorine, Anhydrous		<b>A</b>	
Chloroform	<b>A</b>	<b>A</b>	
Chlorosulfonic Acid		<b>A</b>	
Chromic Acid		<b>A</b>	
Chromic Acid, 10 percent	<b>B</b>		
Chromic Acid, 40 percent Conc.			Be Cautious When Using With Tubing & Frits; Room Temperature Only
Chromic Acid, 5 percent	<b>A</b>		
Chromic Acid, 50 percent	<b>B</b>		Elevated Temperatures May Reduce Resistance
Chromic Acid, 70 percent	<b>B</b>		Elevated Temperatures May Reduce Resistance
Cider	<b>A</b>		
Citric Acid, 10 percent	<b>B</b>		
Citric Acid, 100 percent	<b>B</b>		
Citric Acid, 5 percent Still	<b>A</b>		
Coffee	<b>A</b>		
Copper Acetate, 10 percent	<b>A</b>		Elevated Temperatures May Reduce Resistance
Copper Carbonate, 10 percent	<b>B</b>		
Copper Chloride, 1 percent	<b>A</b>		Subject To Pitting
Copper Chloride, 5 percent Aerated	<b>C</b>		Subject To Pitting
Copper Cyanide, 10 percent	<b>A</b>		
Copper Cyanide, 100 percent	<b>B</b>		
Copper Nitrate	<b>A</b>		
Copper Sulfate, 10 percent	<b>A</b>		
Copper Sulfate, 100 percent	<b>B</b>		
Creosote	<b>A</b>		
Creosote Oil	<b>B</b>		
Cresol (o-)		<b>A</b>	
Cyanogen Gas	<b>B</b>		
Cyclohexane		<b>A</b>	
Cyclohexanone		<b>A</b>	Room Temperature Only
Detergents		<b>A</b>	
Developing Solutions	<b>A</b>		
Dibutyl Phthalate		<b>A</b>	Room Temperature Only
Dibutyl Sebacate		<b>A</b>	
Diethyl Carbonate		<b>A</b>	
Diisobutyl Adipate		<b>A</b>	
Dimethyl Ether		<b>A</b>	
Dimethyl Formamide (DMF)		<b>A</b>	Room Temperature Only

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Dimethyl Hydrazine, unsym.		<b>A</b>	
Dimethyl Sulfoxide		<b>A</b>	
Dimethylphthalate		<b>A</b>	
Dioxane		<b>A</b>	Room Temperature Only
Dyewood Liquor	<b>A</b>		
Epsom Salt	<b>A</b>		
Ether, 100 percent	<b>A</b>		
Ethyl Acetate	<b>B</b>	<b>A</b>	Room Temperature Only
Ethyl Alcohol		<b>A</b>	
Ethyl Alcohol, 10 percent	<b>A</b>		
Ethyl Alcohol, 100 percent	<b>A</b>		Elevated Temperatures May Reduce Resistance
Ethyl Alcohol, 40 percent	<b>A</b>		Elevated Temperatures May Reduce Resistance
Ethyl Chloride, Dry	<b>A</b>		
Ethyl Ether		<b>A</b>	
Ethyl Glycol	<b>B</b>		
Ethyl Hexoate		<b>A</b>	
Ethylene Bromide		<b>A</b>	
Ethylene Chloride	<b>A</b>		
Ethylene Dichloride			Room Temperature Only
Ethylene Glycol		<b>A</b>	
Ethylenediamine		<b>A</b>	
Ferric Chloride		<b>A</b>	
Ferric Chloride, 1 percent	<b>A</b>		Subject To Pitting
Ferric Chloride, 5 percent	<b>C</b>		Subject To Pitting
Ferric Hydroxide	<b>A</b>		
Ferric Nitrate, 10 percent	<b>B</b>		
Ferric Nitrate, 5 percent	<b>A</b>		
Ferric Phosphate		<b>A</b>	
Ferric Sulfate, 10 percent	<b>A</b>		Elevated Temperatures May Reduce Resistance
Ferric Sulfate, 100 percent	<b>B</b>		
Ferrous Chloride	<b>C</b>		Room Temperature Only
Ferrous Sulfate	<b>B</b>		
Fluorine	<b>A</b>		
Fluoronaphthalene		<b>A</b>	
Fluoronitrobenzene		<b>A</b>	
Formaldehyde	<b>A</b>	<b>A</b>	
Formic Acid		<b>A</b>	
Formic Acid, 5 percent	<b>A</b>		
Formic Acid, 75 percent	<b>B</b>		

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Freon 113		<b>A</b>	Only Tested To 47 Degrees C
Furane		<b>A</b>	
Furfural	<b>B</b>		
Gallic Acid, 100 percent	<b>B</b>		
Gallic Acid, 5 percent	<b>A</b>		
Gasoline		<b>A</b>	Room Temperature Only
Gasoline	<b>A</b>		
Gelatin	<b>A</b>		
Glycerin, 10 percent	<b>A</b>		
Glycerin, 100 percent	<b>B</b>		
Hexachloroethane		<b>A</b>	
Hexane		<b>A</b>	Room Temperature Only
Hydrazine		<b>A</b>	
Hydrochloric Acid	<b>C</b>	<b>A</b>	
Hydrocyanic Acid	<b>B</b>		
Hydrofluoric Acid		<b>A</b>	
Hydrofluosilic Acid	<b>C</b>		
Hydrogen Peroxide		<b>A</b>	
Hydrogen Peroxide, 100 percent	<b>B</b>		
Hydrogen Peroxide, 30 percent	<b>A</b>		Elevated Temperatures May Reduce Resistance
Hydrogen Sulfide, 100 percent	<b>B</b>		
Hydrogen Sulfide, 90 percent	<b>A</b>		
Iodine, 80 percent	<b>C</b>		
Iodoform	<b>A</b>		
Iso-Octane		<b>A</b>	Room Temperature Only
Lactic Acid, 100 percent	<b>B</b>		
Lactic Acid, 5 percent	<b>A</b>		
Lard	<b>A</b>		
Lead		<b>A</b>	
Linseed Oil	<b>A</b>		
Magnesium Chloride		<b>A</b>	
Magnesium Chloride, 5 percent	<b>A</b>		
Magnesium Chloride, 50 percent	<b>B</b>		
Magnesium Sulfate, 100 percent	<b>B</b>		
Magnesium Sulfate, 30 percent	<b>A</b>		
Malic Acid	<b>B</b>		
Mayonnaise	<b>A</b>		
Mercuric Chloride			
Mercuric Chloride, 10 percent	<b>C</b>		

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Mercury		<b>A</b>	
Mercury, 100 percent	<b>B</b>		
Methacrylic Acid		<b>A</b>	
Methanol		<b>A</b>	
Methyl Alcohol, 100 percent	<b>B</b>		
Methyl Methacrylate		<b>A</b>	
Methylene Chloride		<b>A</b>	Only Tested To 40 Degrees C
Methylethyl Ketone (MEK)		<b>A</b>	
Milk	<b>A</b>		
Mineral Oil		<b>A</b>	
Molasses	<b>A</b>		
Motor Oil		<b>A</b>	
Muriatic Acid	<b>C</b>		
Mustard	<b>A</b>		
Naphtha		<b>A</b>	
Naphthalene		<b>A</b>	
Naphthols		<b>A</b>	
Naptha, 100 percent	<b>B</b>		
Naptha, Crude	<b>A</b>		
Nickel Chloride, 100 percent	<b>B</b>		
Nickel Sulfate, 10 percent	<b>A</b>		Elevated Temperatures May Reduce Resistance
Nitric Acid		<b>A</b>	
Nitric Acid, 10 percent	<b>A</b>		Elevated Temperatures May Reduce Resistance
Nitric Acid, 100 percent	<b>B</b>		Elevated Temperatures May Reduce Resistance
Nitric Acid, 90 percent	<b>A</b>		Elevated Temperatures May Reduce Resistance
Nitric Acid, Fuming		<b>A</b>	Room Temperature Only
Nitro-2-Methyl Propanol (2-)		<b>A</b>	
Nitrobenzene		<b>A</b>	Room Temperature Only
Nitro-Butanol (2-)		<b>A</b>	
Nitrogen Tetroxide		<b>A</b>	
Nitromethane		<b>A</b>	
Octadecyl Alcohol (n-)		<b>A</b>	
Oils, Crude & Vegetable	<b>A</b>		May Attack When Sulfuric Acid Is Present
Oleic Acid	<b>B</b>		Room Temperature Only
Oxalic Acid, 10 percent	<b>B</b>		Elevated Temperatures May Reduce Resistance
Oxalic Acid, 100 percent	<b>C</b>		
Oxalic Acid, 5 percent	<b>A</b>		

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Oxalic Acid, 50 percent	<b>B</b>		Elevated Temperatures May Reduce Resistance
Ozone		<b>A</b>	Room Temperature Only
Paraffin	<b>A</b>		
Pentachlorobenzamide		<b>A</b>	
Perchloroethylene		<b>A</b>	Elevated Temperatures Reduce Resistance
Perfluoroxylene		<b>A</b>	
Phenol		<b>A</b>	
Phenol, 10 percent	<b>A</b>		
Phenol, 100 percent	<b>B</b>		
Phosphoric Acid		<b>A</b>	
Phosphoric Acid, 10 percent	<b>B</b>		
Phosphoric Acid, 5 percent	<b>A</b>		
Phosphoric Acid, 70 percent	<b>B</b>		
Phosphorus Pentachloride		<b>A</b>	
Phthalic Acid		<b>A</b>	
Picric Acid	<b>B</b>		
Pinene		<b>A</b>	
Piperidene		<b>A</b>	
Polyacrylonitrile		<b>A</b>	
Potassium Acetate		<b>A</b>	
Potassium Bichromate	<b>B</b>		
Potassium Bromide	<b>B</b>		
Potassium Carbonate	<b>B</b>		
Potassium Chlorate	<b>A</b>		
Potassium Chloride, 10 percent	<b>B</b>		
Potassium Chloride, 5 percent	<b>A</b>		
Potassium Ferricyanide, 10 percent	<b>B</b>		
Potassium Ferricyanide, 5 percent	<b>A</b>		
Potassium Ferrocyanide, 10 percent	<b>B</b>		
Potassium Ferrocyanide, 5 percent	<b>A</b>		
Potassium Hydroxide		<b>A</b>	
Potassium Hydroxide, 10 percent Conc.	<b>B</b>		
Potassium Hydroxide, 100 percent	<b>C</b>		
Potassium Hydroxide, 5 percent	<b>A</b>		



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Potassium Hydroxide, 70 percent Conc.			Room Temperature Only
Potassium Nitrate			
Potassium Nitrate, 100 percent	<b>B</b>		Elevated Temperatures May Reduce Resistance
Potassium Oxalate	<b>B</b>		
Potassium Permanganate		<b>A</b>	
Potassium Permanganate, 10 percent	<b>B</b>		
Potassium Sulfate			
Potassium Sulfate, 10 percent	<b>A</b>		Elevated Temperatures May Reduce Resistance
Potassium Sulfide	<b>B</b>		
Pyridine		<b>A</b>	
Pyrogallic Acid	<b>B</b>		
Quinine Bisulfate	<b>B</b>		
Quinine Sulfate	<b>B</b>		
Rosin	<b>B</b>		
Sea Water	<b>A</b>		Subject To Pitting
Sewage	<b>A</b>		May Attack When Sulfuric Acid Is Present
Silver Chloride	<b>C</b>		
Silver Nitrate	<b>B</b>		
Soap	<b>A</b>		
Sodium Acetate	<b>B</b>		
Sodium Bicarbonate	<b>A</b>		
Sodium Bisulfate, 10 percent	<b>A</b>		
Sodium Carbonate, 10 percent	<b>B</b>		
Sodium Carbonate, 100 percent	<b>B</b>		
Sodium Carbonate, 5 percent	<b>A</b>		
Sodium Chloride, 10 percent	<b>B</b>		
Sodium Chloride, 5 percent Still	<b>A</b>		
Sodium Hydroxide		<b>A</b>	
Sodium Hydroxide, 30 percent	<b>A</b>		Elevated Temperatures May Reduce Resistance
Sodium Hypochlorite		<b>A</b>	
Sodium Hyposulfite, 100 percent	<b>B</b>		
Sodium Nitrate, 40 percent	<b>A</b>		
Sodium Nitrate, 50 percent	<b>B</b>		
Sodium Peroxide		<b>A</b>	
Sodium Sulfate, 10 percent	<b>A</b>		
Sodium Sulfate, 20 percent	<b>B</b>		

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Sodium Sulfate, 5 percent	<b>A</b>		
Sodium Sulfide, 50 percent	<b>B</b>		
Sodium Sulfite, 10 percent	<b>A</b>		Elevated Temperatures May Reduce Resistance
Sodium Thiosulfate	<b>A</b>		
Stannic Chloride	<b>C</b>		
Stannous Chloride		<b>A</b>	
Stannous Chloride, 10 percent	<b>A</b>		
Stearic Acid	<b>B</b>		
Sugar Juice	<b>A</b>		
Sulfur	<b>A</b>	<b>A</b>	
Sulfur Chloride	<b>B</b>		
Sulfur Dioxide, 100 percent	<b>B</b>		
Sulfuric Acid		<b>A</b>	
Sulfuric Acid -- Aerated	<b>B</b>		Elevated Temperatures May Reduce Resistance
Sulfuric Acid -- Air Free	<b>B</b>		Elevated Temperatures May Reduce Resistance
Sulfuric Acid, Fuming		<b>A</b>	Room Temperature Only
Sulfurous Acid, 100 percent	<b>B</b>		
Sulfuryl Chloride		<b>A</b>	Elevated Temperatures Reduce Resistance
Tanic Acid, 100 percent	<b>B</b>		
Tartaric Acid, 50 percent	<b>B</b>		
Tetrabromoethane		<b>A</b>	
Tetrachloroethylene		<b>A</b>	
Tetrahydrofuran (THF)		<b>A</b>	
Tin, Molten	<b>C</b>		
Toluene		<b>A</b>	
Transmission Oil		<b>A</b>	
Tri-Butyl Phosphate		<b>A</b>	
Trichloroacetic Acid		<b>A</b>	
Trichlorethylene	<b>B</b>	<b>A</b>	
Tricresyl Phosphate		<b>A</b>	
Tri-n-Butyl Phosphate		<b>A</b>	
Varnish	<b>A</b>		
Vegetable Juices	<b>A</b>		
Vinegar	<b>A</b>		
Vinegar Fumes	<b>A</b>		
Vinyl Methacrylate		<b>A</b>	
Water		<b>A</b>	
Xylene		<b>A</b>	Room Temperature Only
Zinc Chloride		<b>A</b>	

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Zinc Chloride, 50 percent	<b>A</b>		Subject To Pitting
Zinc Sulfate, 30 percent	<b>A</b>		
Zinc, Molten	<b>C</b>		