

# Agilent ICP-MS | Easy-fit Peristaltic Pump Tubing

## Chemical Resistance Chart

Use the table to look up your matrix and select the right pump tubing for your application. For example we recommend Yellow PVC solvent flexible tubing is used for organic, alkaline and aqua regia matrices rather than the standard clear PVC to achieve longer lifetime.

### Important note on service life, temperature, compatibility and chemical resistance:

The data provided in the tables are advisory values and not guaranteed. In all cases customers should conduct tests to ensure compatibility with their chemicals and processes.

We recommend: to immerse the tubing in the chemical to be used for a period of 48 hours. After this time, examine the tubing for signs of swelling, softening or hardening. A judgement can then be made as to the suitability of the tubing.

Tubing use	Standard Spray Chamber Drain	Standard sample/ISTD uptake	Organic/Alkaline matrix sample/ISTD uptake	Xylene matrix	High purity sample uptake
Part numbers	<a href="#">5005-0022</a>	<a href="#">5005-0020</a> ; <a href="#">5005-0021</a> ; <a href="#">5005-0023</a>	<a href="#">5005-0025</a> ; <a href="#">5005-0026</a> ; <a href="#">5005-0027</a>	<a href="#">5042-4799</a>	<a href="#">G1820-65217</a>
Chemical	Beige thermoplastic elastomer (Santoprene)	Clear PVC	Yellow PVC solvent flexible (SolvaFlex)	Black fluoroelastomer polymer (Viton)	Silicone
Acetaldehyde	✓	✗	✓	✗	✓
Acetates (low mol. wt.)	✓	✗	✓	✗	?
Acetic acid (<5%)	✓	✓	✓	✓	✓
Acetic acid (>5%)	✓	✓	✓	?	✗
Acetic anhydride	✗	?	✓	✗	?
Acetone	✗	✗	✗	✗	✓
Acetyl bromide	-	✗	✓	-	-
Acetyl chloride	-	✗	✓	-	-
Air	✓	✓	✓	✓	✓
Alcohols	-	✓	✓	✓	✓
Aliphatic hydrocarbons	-	✓	✗	✗	?
Aluminium chloride	-	✓	✓	✓	?
Aluminium sulfate	✓	✓	✓	✓	✓
Alums	-	✓	✓	✓	-
Ammonia (gas-liquid)	✓	?	✓	✗	✓

✓ = Satisfactory    ? = Use only after testing    ✗ = Unsatisfactory    - = No data available

Chemical	Beige thermoplastic elastomer (Santoprene)	Clear PVC	Yellow PVC solvent flexible (SolvaFlex)	Black fluoroelastomer polymer (Viton)	Silicone
Ammonium acetate	-	✓	✓	-	-
Ammonium carbonate	-	✓	✓	-	-
Ammonium chloride	-	✓	✓	✓	-
Ammonium hydroxide	✓	?	✓	✓	✓
Ammonium nitrate	-	✓	✓	-	?
Ammonium phosphate	-	✓	✓	-	✓
Ammonium sulfate	✓	✓	✓	✓	✓
Amyl acetate	✗	✗	✗	✗	✗
Amyl alcohol	✓	✓	✗	✓	✗
Amyl chloride	-	?	✗	✓	✗
Aniline	✓	?	✓	?	✗
Aniline hydrochloride	-	?	✓	✓	✗
Animal oils	✓	✗	✓	✓	?
Antimony salts	-	✓	✓	?	-
Aqua regia	✗	✗	✓	?	-
Aromatic hydrocarbons	-	✗	✗	✓	?
Arsenic salts	✓	✓	✓	✓	-
Barium salts	✓	✓	✓	✓	✓
Beer	?	?	-	-	-
Benzaldehyde	✓	✗	✗	✗	✗
Benzene	✗	?	✗	✓	✗
Benzene sulfonic acid	-	?	✓	✓	-
Benzoic acid	✗	✓	✗	✓	?
Benzyl alcohol	✓	✓	✗	✓	-
Bleaching liquors	✓	✓	✓	✓	?
Boric acid	✓	✓	✓	✓	✓
Bromine	✗	✓	✓	✓	✗
Butane	✗	?	✗	✓	✗
Butanol	-	✓	-	✓	?
Butyl acetate	✗	✗	✗	✗	-
Butyric acid	✓	✗	✓	?	-
Calcium salts	✓	✓	✓	✓	?
Carbon bisulfide	-	✗	✗	✓	-
Carbon dioxide	✓	✓	✓	✓	?
Carbon tetrachloride	✗	?	✓	✓	✗
Chloracetic acid	✗	✗	✓	✗	-
Chlorobenzene	✗	✗	✗	✓	-
Chlorine (wet)	✗	?	✓	✓	✗
Chlorine (dry)	✗	?	✓	✗	✗
Chloroform	✗	?	✗	✓	✗
Chlorsulfonic acid	✗	?	✓	✗	✗
Chromatic acid	✓	✓	-	✓	✗
Chromium salts	✓	✓	✓	-	-
Citric acid	?	✓	-	-	-
Copper salts	✓	✓	✓	✓	✓
Cresol	✗	?	✗	✓	✓
Cyclohexanone	✗	✗	✗	✓	✗

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Chemical	Beige thermoplastic elastomer (Santoprene)	Clear PVC	Yellow PVC solvent flexible (SolvaFlex)	Black fluoroelastomer polymer (Viton)	Silicone
Essential oils	✓	?	✓	-	-
Ethers	✗	?	✗	?	✗
Ethyl acetate	✗	✗	✗	✗	?
Ethyl alcohol	✓	?	✓	✓	?
Ethyl bromide	-	✗	✓	✓	-
Ethyl chloride	✗	✗	✓	✓	✗
Ethylamine	-	✗	✓	✗	-
Ethylene chlorohydrin	✗	✗	✓	✓	✗
Ethylene di-chloride	✗	✗	✓	✓	✗
Ethylene glycol	✓	✓	✓	✓	✓
Fatty acids	-	?	✓	✓	?
Ferric chloride	-	✓	✓	✓	?
Ferric sulfate	✓	✓	✓	✓	?
Ferrous chloride	-	✓	✓	✓	?
Ferrous sulfate	-	✓	✓	✓	?
Fluoborate salts	✓	✓	✓	-	-
Fluoboric acid	✓	✓	✓	-	-
Fluo-silicic acid	✓	✓	✓	-	-
Food Products	?	?	-	-	-
Formaldehyde	✓	✓	✓	✗	?
Formic acid	✓	✓	✓	✗	?
Freon	✗	✗	✗	?	✗
Gasoline (non-aromatic)	✗	✗	✗	✓	✗
Gasoline (high aromatic)	-	✗	✗	✓	✗
Glucose	✓	✓	✓	✓	✓
Glue	-	✓	✓	✓	-
Glycerine	✓	✓	✓	✓	✓
Hydriodic acid	-	✓	✓	✓	-
Hydro-bromic-acid	✓	✓	✓	✓	✗
Hydrochloric acid (dil.)	✓	✓	✓	✓	✗
Hydrochl. acid (med. conc.)	✓	✓	✓	✓	✗
Hydrochloric (conc.)	✓	?	✓	✓	✗
Hydrocyanic acid	✓	✓	✓	✓	✗
Hydrofluoric acid	?	?	✓	✓	✗
Hydrogen peroxide (dil.)	✗	✓	✓	✓	✓
Hydrogen peroxyde (conc.)	✗	✗	✓	?	✗
Hydrogen sulfide	✓	✓	✓	✗	✗
Hypochlorus acid	✓	✓	✓	✓	-
Iodin and solutions	✓	✓	✗	✓	-
Kerosene	✗	✗	✗	✓	✗
Ketones	-	✗	✗	✗	✗
Laquer solvents	✗	✗	✓	✗	✗
Lactic acid	?	?	✗	✓	-
Lead acetate	-	✓	✓	✗	✗
Linseed oil	✓	✓	✗	✓	✓
Magnesium chloride	-	✓	✓	✓	✓
Magnesium sulfate	✓	✓	✓	✓	-

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Chemical	Beige thermoplastic elastomer (Santoprene)	Clear PVC	Yellow PVC solvent flexible (SolvaFlex)	Black fluoroelastomer polymer (Viton)	Silicone
Malic acid	✓	✓	✓	✓	✓
Manganese salts	✓	✓	✓	✓	✓
Mercury salts	✓	✓	✓	✓	-
Milk	?	✓	-	-	-
Naphtha	✗	?	✓	✓	✗
Natural gas	✓	✓	✗	✓	✓
Nickel salts	✓	✓	✓	✓	✓
Nitric acid (dil.)	?	✓	✓	✓	?
Nitric acid (med. conc.)	?	?	✓	✓	✗
Nitric acid (conc.)	?	?	✓	?	✗
Nitric acid (15%), Sulphuric (40%)	-	?	✓	✓	-
Nitrobenzene	✗	✗	✗	✓	✗
Nitrogen oxides	✓	✓	✓	?	?
Nitrous acid	✗	✓	✓	?	-
Oils, animal	✓	✗	✓	✓	?
Oils, mineral	✓	✗	✗	✓	?
Oils, vegetable	✓	?	✓	✓	✓
Oleic acid	?	✗	✓	?	✗
Oxalic acid	✓	✓	✓	✓	?
Oxygen (gas)	✓	✓	✓	-	✓
Perchloric acid	✓	✗	✓	✓	✗
Phenol	✗	?	✗	✓	✗
Phosphoric acid (ortho.)	✓	✓	✓	✓	?
Phtalic acid	✓	✓	✗	✓	✓
Plating solutions	✓	✓	✓	✓	✗
Potassium carbonate	-	✓	✓	✓	-
Potassium chlorate	-	✓	✓	✓	-
Potassium hydroxyde	✓	?	✓	✓	?
Potassium iodide	-	✓	✓	✓	-
Pyridine	✗	✗	✓	✗	✗
Silver nitrate	✓	✓	✓	✓	✓
Soap solutions	✓	✓	✓	✓	✓
Sodium bicarbonate	✓	✓	✓	✓	✓
Sodium bisulfate	✓	✓	✓	✓	-
Sodium bisulfite	✓	✓	✓	✓	✓
Sodium borate	✓	✓	✓	✓	✓
Sodium carbonate	✓	✓	✓	✓	✓
Sodium chlorate	✓	✓	✓	✓	-
Sodium chloride	✓	✓	✓	✓	✓
Sodium ferrocyanide	✓	✓	✓	✓	-
Sodium hydrosulfite	-	✓	✓	✓	?
Sodium hydroxide (dil.)	?	✓	✓	✓	?
Sodium hydroxide (med.conc.)	?	?	✓	✓	?
Sodium hydroxide (conc.)	?	?	✓	?	?
Sodium hypochlorite	✓	✓	✓	✓	-
Sodium nitrate	✓	✓	✓	-	✗
Sodium silicate	✓	✓	✓	✓	-

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Chemical	Beige thermoplastic elastomer (Santoprene)	Clear PVC	Yellow PVC solvent flexible (SolvaFlex)	Black fluoroelastomer polymer (Viton)	Silicone
Sodium sulfide	-	✓	✓	✓	✓
Sodium sulphite	✓	✓	✓	✓	✓
Stearic acid	✓	✓	✓	-	?
Sulphur chloride	✗	?	✓	✓	✗
Sulphur dioxide	✓	✓	✓	✓	?
Sulphur trioxide	✓	✓	✓	✓	?
Sulphuric acid (dil.)	?	✓	✓	✓	✗
Sulphuric acid (med. conc.)	?	✓	✓	✓	✗
Sulphuric acid (conc.)	?	?	✓	✓	✗
Sulphuric (40%), Nitric acid (15%)	-	?	✓	✓	-
Sulfurous acid	✓	✓	✓	✓	✗
Tannic acid	✓	✓	✓	✓	?
Tanning extracts	✓	✓	✓	✓	-
Tartaric acid	-	✓	✓	✓	?
Tin salts	-	✓	✓	-	-
Titanium salts	-	✓	✓	-	-
Toluol	-	✗	✗	✓	✗
Trichloroacetic acid	-	✗	✓	✗	-
Tri-sodium phosphate	-	✓	✓	✓	-
Turpentine	-	✓	✗	✓	✗
Urea	✓	✓	✓	✓	✓
Uric acid	✓	✓	✓	-	-
Water	✓	✓	✓	✓	✓
Water (brine)	✓	✓	✓	✓	✓
Wines	?	?	-	-	-
Whiskey	?	?	-	-	✓
Xylene (Xylo)	✗	✗	✗	✓	✗
Zinc chloride	-	✓	✓	✓	-

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## Genuine Agilent supply. Quality assured.

Easy-fit peristaltic pump tubing has the optimum, minimized length to eliminate the need to trim.

- Low leachable metals and quick wash out to prevent contamination or increased background
- Secure tab adhesion, even for tubing that has been pre-soaked in nitric acid cleaning solution
- Stable flow rate for better long-term signal stability over lifetime of the tube
- Fast recovery, ensuring signals stabilize faster when changing pump speeds
- Easy insertion with accurately cut and flared ends for all tubing with <1mm ID

The result – improved ease of use and greater productivity



Order your Agilent Easy-fit peristaltic pump tubing in our [online store](#)

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