# Tubing Compatibility

| | Chemical | P | S | T | TU | TK | V |
|---|---|---|---|---|---|---|---|
| A | Acetaldehyde | D | C | D | D | D | D |
| | Acetic acid, 10 % in W. | A | A | A | A | A | - |
| | Acetic acid, 100 % | B | D | D | D | - | - |
| | Acetic anhydride | A | A | D | D | A | D |
| | Acetone | D | C | D | D | C | D |
| | Acetonitrile | C | D | D | D | B | D |
| | Acetyl bromide | C | D | D | D | C | - |
| | Acetyl chloride | C | D | D | D | C | A |
| | Aliphatic hydrocarbons | D | D | D | B | D | - |
| | Aluminum chloride, 53 % in W. | A | A | A | A | A | A |
| | Aluminum sulfate, 50 % in W. | A | A | A | A | A | A |
| | Alums | A | A | A | A | A | - |
| | Ammonia, gas and liquid | A | D | B | B | B | D |
| | Ammonium acetate, 45 % in W. | A | A | A | A | A | - |
| | Ammonium carbonate, 20 % in W. | A | A | A | A | A | A |
| | Ammonium chloride | A | C | A | A | A | A |
| | Ammonium hydroxide, 30 % in W. | A | D | A | C | A | B |
| | Ammonium nitrate | A | C | A | A | A | - |
| | Ammonium phosphate | A | A | A | A | A | - |
| | Ammonium sulfate | B | A | A | A | A | D |
| | Amyl acetate | B | D | D | D | D | A |
| | Amyl alcohol | D | D | D | A | A | A |
| | Amyl chloride | C | D | D | D | D | - |
| | Aniline | C | D | D | D | D | D |
| | Aniline hydrochloride | C | D | D | D | D | B |
| | Aqua regia (80 % HCl, 20 % $HNO_3$) | D | D | D | D | A | - |
| | Aromatic hydrocarbons | A | D | D | D | D | - |
| | Arsenic salts | A | A | A | A | A | - |
| B | Barium salts | A | A | A | A | A | - |
| | Benzaldehyde | D | C | D | D | C | D |
| | Benzene | D | D | D | D | - | - |
| | Benzenesulfonic acid | D | D | D | D | D | A |
| | Boric acid, 4 % in W. | A | A | A | A | A | A |
| | Bromine | D | D | D | D | D | A |
| | Butane | A | A | A | A | B | A |
| | Butanol (butyl alcohol) | D | B | D | A | A | A |
| | Butyl acetate | B | D | D | D | D | - |
| | Butyric acid | B | D | D | C | D | D |

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|---|---|---|---|---|---|---|---|
| C | Calcium oxide | A | A | A | A | A | - |
| | Carbon bisulfide | D | D | D | D | D | - |
| | Carbon tetrachloride | D | D | D | D | D | A |
| | Chlorine, wet | D | D | B | B | C | B |
| | Chloracetic acid, 20 % in W. | B | A | A | D | A | D |
| | Chlorobenzene | D | D | D | D | C | A |
| | Chloroform | D | D | D | D | C | A |
| | Chlorobromomethane | B | D | D | D | - | A |
| | Chromic acid, 20 % in W. | A | D | B | C | B | A |
| | Chromic acid, 50 % in W. | C | D | C | D | - | - |
| | Copper salts | A | A | A | A | A | - |
| | Cyclohexane | D | D | D | C | D | A |
| | Cyclohexanone | D | D | D | D | C | D |
| | Chlorosulfonic acid | D | D | D | D | D | D |
| D | Diesel | D | D | D | B | - | - |
| | Dimethyl formamide | B | B | D | D | A | D |
| E | Ethanol (ethyl alcohol) | A | B | D | B | A | A |
| | Ether | C | D | D | C | D | - |
| | Ethyl acetate | B | D | D | D | D | D |
| | Ethyl bromide | D | D | D | D | C | - |
| | Ethyl chloride | C | D | D | D | D | A |
| | Ethylamine | D | C | D | D | B | - |
| | Ethylene chlorhydrin | A | B | D | B | A | A |
| | Ethylene dichloride | C | D | D | D | D | B |
| | Ethylene glycol | A | A | A | A | A | A |
| | Ethylene oxide | A | D | A | A | A | D |
| F | Fatty acids | C | B | B | C | C | C |
| | Ferric chloride 40 % in W. | A | A | A | A | A | B |
| | Ferric sulfate 5 % in W. | A | A | A | A | A | A |
| | Ferrous chloride 43 % in W. | A | A | A | A | A | - |
| | Ferrous sulfate 5 % in W. | A | A | A | A | A | - |
| | Fluoboric acid, 10 % in W. | D | D | A | A | A | - |
| | Fluoroborate salts | A | - | A | A | A | - |
| | Fluosilicic acid | C | B | D | B | A | - |
| | Formaldehyde, 37 % in W. | D | C | D | D | C | D |
| | Formic acid, 25 % in W. | A | A | A | C | A | D |
| | Freon 11 | A | A | A | A | - | - |
| | Fruit juice | A | A | A | A | A | A |
| G | Gasoline, high-aromatic | D | D | D | B | D | A |
| | Gasoline, non-aromatic | D | D | D | B | D | A |
| | Glycerin | A | A | A | A | A | A |

| | Chemical | P | S | T | TU | TK | V |
|---|---|---|---|---|---|---|---|
| H/J | Hydrobromic acid, 20 - 50 % | D | D | A | A | A | A |
| | Hydrochloric acid, 10 % in W. | A | D | A | A | A | A |
| | Hydrochloric acid, 37 % in W. | B | D | A | D | A | B |
| | Hydrocyanic acid | A | A | A | A | A | A |
| | Hydrofluoric acid, 10 % in W. | D | D | C | A | A | B |
| | Hydrofluoric acid, 50 % | D | D | D | D | A | A |
| | Hydrogen peroxide, 10 % in W. | A | A | A | A | A | A |
| | Hydrogen peroxide, 90 % in W. | B | C | D | D | B | - |
| | Hydroiodic acid | B | B | A | A | A | - |
| | Hypochlorous acid, 25 % in W | A | A | A | A | A | A |
| | Iodine solutions | A | C | A | A | A | - |
| K/L | Ketones | D | D | D | D | C | - |
| | Lactic acid, 10 % in W. | A | A | A | A | A | - |
| | Lactic acid, 85 % in W. | B | D | D | D | - | - |
| | Lead acetate, 35 % in W. | A | A | A | A | A | - |
| M | Manganese salts | A | A | A | A | A | - |
| | Magnesium chloride, 35 % in W. | A | A | A | A | A | A |
| | Magnesium sulfate, 25 % in W. | A | A | A | A | A | - |
| | Mercury salts | A | A | A | A | A | - |
| | Methane | A | - | A | A | A | A |
| | Methanol | A | B | D | B | A | D |
| | Methyl Ethyl Ketone | D | D | D | D | C | D |
| | Monoethanolamine | C | D | D | D | D | D |
| N | Naphtha | D | D | D | D | D | A |
| | Nickel salts | A | A | A | A | A | - |
| | Nitric acid, 10 % in W. | A | C | A | D | A | A |
| | Nitric acid, 35 % in W. | A | D | A | D | A | A |
| | Nitric acid, 68 - 71 % in W. | D | D | D | D | D | - |
| | Nitrobenzene | D | D | D | D | C | - |
| | Nitrous acid, 10 % in W. | A | B | A | C | A | - |
| O | Oils, animal | C | A | D | A | B | - |
| | Oils, mineral | D | D | C | A | D | A |
| | Oleic acid | C | B | D | B | D | B |
| P | Perchloric acid, 67 % in W. | A | D | C | D | A | A |
| | Perchlorethylene | C | D | D | D | D | A |
| | Phenol, 91 % in W. | A | D | D | C | A | - |
| | Phosphoric acid 25 % in W. | A | D | A | A | A | A |
| | Phthalic acid, 9 % in Alc. | A | B | D | C | B | - |
| | Potassium carbonate, 55 % in W. | A | A | A | A | A | - |
| | Potassium cyanide, 33 % in W. | A | A | A | A | - | - |

| | Chemical | P | S | T | TU | TK | V |
|---|---|---|---|---|---|---|---|
| | Potassium hydroxide, <10 % in W. | A | A | A | D | - | B |
| | Potassium iodide, 56 % in W. | A | A | A | A | A | - |
| | Propanol (propyl alcohol) | C | A | D | D | A | B |
| | Pyridine | C | D | D | D | C | D |
| Q/S | Silicone oils | C | D | B | A | B | A |
| | Silver nitrate, 55 % in W. | A | A | A | A | A | A |
| | Soap solutions | B | A | A | A | A | A |
| | Sodium bicarbonate, 7 % in W. | A | A | A | A | A | A |
| | Sodium bisulfate | A | - | A | A | A | - |
| | Sodium borate | A | A | A | A | A | A |
| | Sodium carbonate | A | A | A | A | A | B |
| | Sodium ferrocyanide | A | A | A | D | - | - |
| | Sodium hydrosulfite | A | - | A | A | A | - |
| | Sodium hydroxide, 10 - 15 % in W. | A | A | A | D | A | B |
| | Sodium hydroxide, 30 - 40 % in W. | A | C | C | D | A | B |
| | Sodium nitrate, 3.5 % in W. | A | A | A | A | A | - |
| | Sodium sulfate, 3.6 % in W. | A | A | A | A | - | A |
| | Sodium sulfide, 13 % in W. | A | A | A | A | A | - |
| | Stearic acid, 5 % in Alc. | C | D | D | B | B | - |
| | Sulfuric acid, 10 % in W. | A | A | A | B | A | A |
| | Sulfuric acid, 30 % in W. | A | B | A | B | A | A |
| | Sulfuric acid, 95 - 98 % in W. | D | D | D | D | C | A |
| | Sulfurous acid | A | A | A | A | A | A |
| T | Tannic acid, 75 % in W. | B | A | B | D | A | - |
| | Tartaric acid, 56 % in W. | A | A | A | A | A | A |
| | Tin salts | A | A | A | A | A | - |
| | Toluene (toluol) | D | D | D | D | C | A |
| | Trichloroacetic acid, 90 % in W. | B | D | A | D | A | C |
| | Trichlorethylene | C | D | D | D | C | A |
| | Trisodium phosphate | A | A | A | A | A | A |
| | Turpentine | D | D | D | B | A | A |
| | Urea, 20 % in W. | A | A | A | A | A | - |
| | Uric acid | A | A | A | C | A | - |
| | Xylene | D | D | D | D | C | B |
| W/Z | Zinc chloride, 80 % in W. | A | A | A | A | A | A |

**Tubing:**
P = PharMed®
S = Silicone
T = Tygon® standard
TU = Tygon® for hydrocarbons
TK = Tygon® 2001 for food
V = Viton®

**Resistance:**
A = excellent
B = good
C = conditional
D = unsuitable
- = not tested

**Please note:**
- All information provided here is not guaranteed to be correct
- Recommended testing of tubing prior to application use