

CHEMICAL COMPATIBILITY CHART

Hose Material Code:

PV = Vinyl, PU = Polyurethane, PY= Low Density Polyethylene
 HPY = High Density Polyethylene, N = Flexible Nylon II
 UN = Unplasticized Nylon II, PP = Polypropylene

Compatibility Code:

G = Good. Little or no swelling, tensile, or surface change
 L = Marginal. Noticeable effects but not necessarily indicating lack of serviceability. Further testing recommended in specific application.
 P = Poor or unsatisfactory. Not recommended without extensive testing.
 NT = Not tested or not rated.

Ratings based on immersion tests at 73° F and should not be extrapolated to higher temperatures without appropriate caution.

| Chemical | PV | PU | PY | HPY | N | UN | PP |
|---------------------------|----|----|----|-----|----|----|----|
| ACIDS & BASES: | | | | | | | |
| Acetic, 50% | G | P | P | G | L | L | G |
| Boric | G | G | G | G | G | G | G |
| Carbolic (Phenol) | P | P | G | G | P | P | G |
| Fatty | G | G | P | G | G | G | G |
| Formic, 90% | G | P | G | G | P | P | G |
| Hydrochloric, 10% | G | G | G | G | L | L | G |
| Hydrochloric, 25% | G | L | G | G | P | P | G |
| Hydrocyanic, 50% | G | L | G | G | NT | NT | G |
| Hydrofluoric, 50% | L | P | G | G | P | P | G |
| Maleic | G | P | G | G | G | G | G |
| Nitric, 10% | G | P | G | G | L | L | G |
| Nitric, 30% | G | P | G | G | P | P | L |
| Oleic | L | G | L | G | G | G | G |
| Phosphoric, 25% | G | L | G | G | G | G | G |
| Sulfuric, 30% | G | L | G | G | L | L | G |
| Sulfuric, 70% | L | P | P | G | P | P | G |
| Sulfuric, 98% | P | P | P | L | P | P | G |
| Sulfurous, 30% | G | P | G | G | L | L | G |
| Tannic | G | P | G | G | G | G | G |
| Ammonium Hydroxide, 25% | P | G | L | G | G | G | G |
| Potassium Hydroxide, 25% | L | G | G | G | G | G | G |
| Sodium Hydroxide, 50% | G | G | G | G | G | G | G |
| SOLVENTS: | | | | | | | |
| Acetone | P | P | G | G | G | G | L |
| Benzene | P | L | P | L | G | G | P |
| Carbon Tetrachloride | P | L | L | L | L | L | P |
| Chloroform | P | P | P | P | L | L | P |
| Cyclohexanone | P | P | P | G | G | G | L |
| Dimethylformamide | P | P | L | G | NT | NT | G |
| Dioxane | NT | NT | P | G | G | G | L |
| Ethyl acetate | P | L | G | G | G | G | L |
| Ethyl Alcohol** | L | G | G | G | L | G | G |
| Ethyl ether | L | L | G | G | G | G | L |
| Ethylene glycol | G | G | G | G | G | G | G |
| Formaldehyde | G | G | G | G | G | G | G |
| Freon - 12 | L | L | G | G | G | G | L |
| Methyl alcohol | L | G | G | G | L | G | G |
| Methylene chloride | P | P | L | L | G | G | L |
| Methyl ethyl ketone | P | P | G | G | G | G | L |
| Napthas*** | P | G | P | G | G | G | L |
| Toluene | P | G | P | L | G | G | L |
| Trichlorethylene | P | P | P | G | L | L | P |
| Turpentine | G | G | P | G | G | G | L |
| Xylene | P | G | P | L | G | G | L |
| HYDRAULIC FLUIDS: | | | | | | | |
| Diester base grease | NT | G | P | NT | G | G | L |
| Petroleum base grease | G | G | L | NT | G | G | L |
| Phosphate ester | L | P | P | NT | G | G | G |
| Polyol ester | P | NT | P | NT | G | G | G |
| Water-glycol | G | G | G | NT | G | G | G |
| SAE motor oils | G | G | G | G | G | G | G |
| Machine oil | G | G | L | G | G | G | L |
| MIL-L7808 H | G | G | L | G | G | G | G |
| Brake fluid | NT | NT | NT | NT | NT | NT | NT |

| Chemical | PV | PU | PY | HPY | N | UN | PP |
|-----------------------------|----|----|----|-----|---|----|----|
| FUELS: | | | | | | | |
| Butane ** | G | G | L | G | G | G | L |
| Diesel Fuel | L | G | L | G | G | G | L |
| Gasoline (Regular) | L | G | P | G | G | G | L |
| Kerosene | L | G | P | G | G | G | G |
| Methane (natural gas)** | G | G | L | G | G | G | G |
| Propane** | G | G | L | G | G | G | L |
| OTHER: | | | | | | | |
| Acetylene | NT | G | G | G | G | G | G |
| Ammonia Gas | P | G | G | G | G | G | G |
| Ammonium Salts | G | G | G | G | G | G | G |
| Amyl acetate | P | P | L | G | G | G | P |
| Aniline | P | P | L | G | L | L | G |
| Animal Oils | G | G | P | G | G | G | G |
| Bleach, 7% | G | P | G | G | L | L | L |
| Bromine | L | G | P | P | P | P | P |
| Butanediol | G | G | G | G | G | G | G |
| Calcium Salts incl chloride | G | G | G | G | G | G | G |
| Chlorine Gas, Dry | G | G | P | P | P | P | P |
| Dibutyl Phthalate | NT | P | L | G | G | G | L |
| Glucose | G | G | G | G | G | G | G |
| Glycerine | G | G | G | G | G | G | G |
| Hydrogen Peroxide, 10% | G | G | G | G | G | G | G |
| Hydrogen Peroxide, 25% | L | G | G | G | P | P | G |
| Hydrogen Sulfide | G | P | G | G | L | L | G |
| Isocyanates | NT | G | G | G | G | G | NT |
| Lead Salts**** | G | G | G | G | G | G | G |
| Magnesium Salts | G | G | G | G | G | G | G |
| Mercury | G | G | G | G | G | G | G |
| Milk** | G | G | G | G | G | G | G |
| Mineral Oil | G | G | L | G | G | G | L |
| Nitrous Oxide** | G | G | L | NT | G | G | G |
| Oxygen** | G | G | G | G | G | G | G |
| Ozone, ambient | G | G | L | G | G | G | L |
| Paint(oil base) | L | G | L | G | G | G | G |
| Polyglycols | G | G | G | G | G | G | G |
| Potassium salts | G | G | G | G | G | G | G |
| Pydraul | P | P | P | NT | G | G | NT |
| Pyridine | P | L | G | G | L | L | G |
| Salt Water | G | G | G | G | G | G | G |
| Silver Nitrate | G | G | G | G | G | G | G |
| Skydrol | P | P | P | NT | G | G | NT |
| Soap solution (conc) | G | G | L | G | G | G | G |
| Sodium salts | G | G | G | G | G | G | G |
| Sodium thiosulphate | G | G | G | G | G | G | G |
| Styrene | P | G | P | P | G | G | NT |
| Trisodium phosphate | G | G | NT | G | G | G | G |
| Ucon oil | G | G | G | G | G | G | NT |
| Urea | G | G | G | G | G | G | G |
| Vegetable oils** | G | G | G | G | G | G | G |
| Water at 73°F | G | G | G | G | G | G | G |
| Water at 140°F | L | G | G | G | G | G | G |
| Water at 170°F | P | L | NT | P | L | G | G |
| Whiskey, wine | NT | G | G | G | G | G | G |
| Zinc chloride | G | G | G | G | G | G | G |

*This chart is intended as a guide to chemical compatibility. Final selection also depends upon pressure, fluid and ambient temperatures and other variables that affect tubing service. Therefore, no guarantee is expressed or implied.

**These ratings do not necessarily imply compliance with specialized codes such as NSF, FDA, AGA or UL.

***Napthas include heptane, hexane, mineral spirits, rubber solvent and Stoddard solvent

****Metallic salts exclude some halogenated metals, especially hypochlorites.