



## **COMPOSITE HOSES CHEMICAL RESISTANCE TABLE**

## Chemical compatibility chart for United Flexible Composite Hose

The following charts shows the suitability of United Flexible Polypropylene, PTFE and Hostafion lined hoses and end fittings for use with various fluids. The information is based on the best data available. Recommendation are given only as a guide and apply only the chemical compatibility of the hoses and end fitting material.

Please consult Amnitec BV Sales Department for recommendations on applications in excess of 140°F (60°C), or for other extreme service conditions outside the scope of the catalog ratings. Composite hose must be derated, ie lower maximum pressure as temperature rises, please consult with the Amnitec BV Sales Department for this information. Allowances must be made when selecting hoses for extreme service conditions. It is not advisable to select a hose which will be subjected simultaneously to pressure, temperatures and bending radii at the maximum ratings of the hose.

The description of a hose, or end fitting material, as "suitable" does not ensure that the hose complies with any regulations or operating requirements governing the handling of the chemical or the use of the hose.

A hose conveying a chemical having an oxidizing effect should be checked for internal discoloration particularly if the hose may be used on an application where color contamination is not permissible.

Clients who are unfamiliar with the characteristics of composite constructed hose may express concern with the amount of elongation or growth of these hose types during pressurization. Unlike rubber hoses, elongation as an indication of deterioration cannot be applied to composite hose.

In a composite hose, much of the elongation is due to 'non-elastic elongation' and arises from the inherent compressibility of the hose wall normal to their plane. This is recognized in British, European (EN) and more International standards, please contact the Amnitec BV Sales Department on details of these standards.

Contact the Amnitec BV Sales Department regarding the maximum flow velocity of United Flexible hoses and calculations regarding pressure drop.

\* = PTFE Lined

### Hose Type 1

Inner wire is polypropylene coated carbon steel with PP liner

**Hose Codes:** 416 - 426 - 436 - 466 - 916

### Hose Type 2

Inner wire is SS316 with PP liner

**Hose Codes:** 414 - 415 - 434 - 464 - 514 - 914

### Hose Type 3

Inner wire is galvanized steel with PP liner

**Hose Codes:** 104 - 804 - 814 - 824 - 834\* - 864 - 904

### Hose Type 4

Inner wire SS316 with PTFE Liner

**Hose Codes:** 124 - 424 - 425 - 444 - 446 - 454 - 924

### End fitting materials

**CS** → Carbon Steel

**SS** → SS316

**PP** → Polypropylene

### Suitability (Hose)

**A** → Suitable for use at 140°F (60°C).

**B** → Suitable for use at worldwide ambient temperatures.

**C** → Suitable for intermittent use at worldwide ambient temperatures.

**D** → Unsuitable or no data available.

### End fittings

**•** → Suitable for the operating conditions applicable to the hose.

**X** → Unsuitable or no data available.

**For fluids that are not listed or service conditions outside the scope of those described, please consult Amnitec BV Sales Department.**

Chemical	Hose				Fittings	
	1	2	3	4	CS	SS
	1	2	3	4	CS	SS
Acetaldehyde	C	C	D	A	X	•
Acetic acid (60%)	A	A	D	A	X	•
Acetic acid (glacial)	B	B	D	A	X	•
Acetic anhydride	B	B	D	A	X	•
Acetoacetic ester	C	C	D	A	•	•
Acetone	A	A	A	A	•	•
Acetone cyanohydrin	B	B	D	A	•	•
Acetonitrile	B	B	B	A	•	•
Acetophenone	B	B	B	A	•	•
Acetylacetone	B	B	B	A	•	•
Acetyl chloride	D	D	D	A	X	•
Acetylene		D	D	D	X	•
Acetylene dichloride	B	B	B	A	•	•
Acetylene tetrachloride	C	C	C	A	•	•
Acrolein (acrylaldehyde)	B	B	B	A	•	•
Acrylamide (50% in solution)	C	C	D	A	•	•
Acrylic acid	B	B	D	A	X	•
Acrylonitrile	A	A	D	A	•	•
Adipic acid (aqueous)	A	A	A	A	X	•
Adiponitrile	B	B	B	A	•	•
Alkyl acrylate vinyl pyridine copolymer in toluene	C	C	C	A	•	•
Alkyl benzene sulphonic acid	C	C	D	A	X	•
Allyl alcohol	A	A	A	A	•	•
Allyl bromide	C	C	C	A	•	•
Allyl chloride	C	C	C	A	•	•
Alums (aqueous - saturated)	A	A	A	A	•	•
Aluminum salts (excluding halides - saturated)	A	B	D	A	•	•
Aluminum chloride (saturated)	A	D	D	D	Poly-propylene	X
2-(2-Aminoethoxy) ethanol	C	C	D	A	•	•
Aminoethyl ethanol-amine	B	B	D	A	•	•
n-Aminoethylpiperazine	C	C	D	A	•	•
Ammonia (28% in solution)	A	A	D	A	•	•
Ammonium chloride (saturated)	A	C	D	A	•	•
Ammonium nitrate (93% in solution)	D	D	D	A	X	X

Chemical	Hose				Fittings	
	1	2	3	4	CS	SS
Ammonium salts (excluding halides - saturated)	A	B	D	A	•	•
Ammonium sulphide (<45% in solution)	C	C	D	A	X	•
Amyl acetate (commercial)	C	C	C	A	•	•
n-Amyl acetate	C	C	C	A	•	•
sec-Amyl acetate	C	C	C	A	•	•
Amyl alcohol	B	B	B	A	•	•
Amyl chloride	C	C	C	A	•	•
Aniline (dedicated hose)	C	B	D	A	•	•
Animal oils	A	A	A	A	•	•
Anisole	C	C	C	A	X	•
Antimony chloride	B	D	D	A	X	•
Aqua regia	C	D	D	A	Poly-propylene	X
Aviation fuel	C	C	C	A	•	•
Barium salts (saturated)	A	B	D	A	•	•
Beer	A	A	D	A	•	•
Benzaldehyde	C	C	D	A	X	•
Benzene	C	C	C	A	•	•
Benzene sulphonyl chloride	D	D	D	D	X	X
Benzene sulphonic acid	C	C	D	A	X	•
Benzoic acid	A	A	D	A	•	•
Benzoyl chloride	C	C	C	A	•	•
Benzyl alcohol	A	A	A	A	•	•
Benzyl butyl phthalate	B	B	B	A	•	•
Benzyl chloride	C	C	C	A	X	•
Black liquor	C	C	D	A	X	•
Bleach (12.5%Cl)	C	C	D	A	•	•
Borax (aqueous)	A	A	A	A	•	•
Boric acid (aqueous)	A	A	D	A	X	•
Brine (saturated)	A	C	D	A	X	•
Butadiene	B	B	B	A	•	•
Butane liquid		D	D	D	X	•
Butanediol	B	B	B	A	•	•
Butyl alcohol	A	A	A	A	•	•
n-Butyl acetate	C	C	C	A	•	•
n-Butyl acrylate	B	B	B	A	•	•
n-Butylamine	B	B	D	A	•	•
Butyl benzene	B	B	B	A	•	•
Butyl benzyl phthalate	B	B	B	A	•	•
Butyl bromide	D	D	D	A	X	•
Butyl butyrate	B	B	B	A	•	•
Butyl carbitol	A	A	A	A	•	•

Chemical	Hose				Fittings	
	1	2	3	4	CS	SS
Butyl carbitol acetate	C	C	C	A	•	•
Butyl cellosolve	A	A	A	A	•	•
Butyl cellosolve acetate	C	C	C	A	•	•
Butyl chloride	D	D	D	A	X	•
Butyl/decyl/cetyl-eicosylmethacrylate mixture	C	C	C	A	•	•
Butylene glycol	A	A	A	A	•	•
n-Butyl ether	B	B	B	A	•	•
Butyl ethyl ether	B	B	B	A	•	•
Butyl methacrylate	C	C	C	A	•	•
Butyl methoxyethyl ether	C	C	C	A	•	•
Butyl phthalate	A	A	A	A	•	•
Butyl stearate	B	B	B	A	•	•
n-Butyraldehyde	C	C	D	A	•	•
Butyric acid (20%)	B	B	B	A	•	•
Butyrolactone	C	C	C	A	•	•
Calcium salts (excluding halides & hypochlorite - saturated)	A	B	D	A	•	•
Calcium alkyl salicylate solution	A	A	D	A	•	•
Calcium chloride (saturated)	A	C	D	A	X	•
Calcium hypochlorite (12.5% CL)	C	C	D	C	X	•
Calcium naphthenate in mineral oil	C	C	C	A	•	•
Camphor oil	C	C	C	A	•	•
Caprylic acid	A	A	A	A	•	•
Carbinols	B	B	B	A	•	•
Carbitol acetate	C	C	C	A	•	•
Carbitols	B	B	B	A	•	•
Carbolic acid	A	A	D	A	X	•
Carbolic oil (middle oil)	C	C	C	A	•	•
Carbon dioxide (liquid)		D	D	D	X	•
Carbon disulphide	C	C	C	D	•	•
Carbonic acid	A	A	D	A	X	•
Carbon tetrachloride	C	C	C	A	•	•
Cashew nut shell oil	B	B	B	A	•	•
Caustic potash (<50%)	A	B	D	A	•	•
Caustic soda (<50%)	A	B	C	A	•	•
Cellosolve	B	B	B	A	•	•
Cetyl-eicosyl methacrylate mixture	C	C	C	A	•	•
Chlorine		D	D	D	X	•

Chemical	Hose				Fittings	
	1	2	3	4	CS	SS
Chloroacetic acid (<80%)	B	D	D	D	Poly-propylene	X
Chlorobenzene	C	C	C	A	•	•
Chlorobutane	C	C	C	A	•	•
Chloroform	C	C	C	A	•	•
Chlorohydrins (crude)	C	C	C	A	•	•
o-Chloronitrobenzenes	C	C	C	A	•	•
Chloroprene	C	C	C	A	X	•
2- or 3-Chloropropionic acid	C	C	D	A	X	•
Chlorosulphonic acid		D	D	D	X	•
o- or m- or p-Chlorotoluene	C	C	C	A	•	•
Chlorotoluenes (mixed isomers)	C	C	C	A	•	•
Chrome alum (saturated)	A	A	D	A	•	•
Chromic acid (<50% - aqueous)	C	C	D	A	X	•
Citric acid	A	A	D	A	X	•
Coal tar naphtha	B	B	B	A	•	•
Copper salts (excluding halides - saturated)	A	A	D	A	•	•
Copper chloride (saturated)	A	D	D	D	Poly-propylene	X
Creosote (wood or coal tar)	B	B	B	A	•	•
Cresols (<90% - mixed isomers)	A	A	A	A	•	•
Crotonaldehyde	C	C	C	A	•	•
Cumene	B	B	B	A	•	•
Cyclohexane	B	B	B	A	•	•
Cyclohexanol	B	B	B	A	•	•
Cyclohexanone	C	C	C	A	•	•
Cyclohexylamine	B	B	D	A	•	•
Cyclopentane	B	B	B	A	•	•
p-Cymene	B	B	B	A	•	•
Decalin	D	D	D	A	X	•
Decene	C	C	C	A	•	•
Decyl acrylate	B	B	D	A	•	•
Decyl alcohol	B	B	B	A	•	•
Detergents	A	A	A	A	•	•
Dextrin	A	A	A	A	•	•
Diacetone alcohol	B	B	B	A	•	•
Diaminoethylamine	B	B	C	A	•	•
Diamylamine	B	B	C	A	•	•
Dibromoethane	B	B	D	A	•	•
Dibutylamine	B	B	C	A	•	•

Chemical	Hose				Fittings	
	1	2	3	4	CS	SS
Dibutyl ether	C	C	C	A	•	•
Dibutyl phthalate	B	B	B	A	•	•
Dibutyl sebacate	B	B	B	A	•	•
Dichloroacetic acid	C	D	D	D	Poly-propylene	X
o-Dichlorobenzene	C	C	C	A	•	•
Dichlorobutane	C	C	C	A	•	•
Dichlorodifluoromethane		D	D	D	X	•
1,1-Dichloroethane	C	C	C	A	•	•
Dichlorethylene	C	C	C	A	•	•
Dichloroethyl ether	C	C	C	A	•	•
2-2-Dichloroisopropyl ether	C	C	C	A	•	•
Dichloromethane	C	C	C	A	•	•
2-4-Dichlorophenol	C	C	D	A	X	•
2,4-Dichlorophenoxy-acetic acid, diethanol-amine salt solution	C	C	D	A	•	•
2,4-Dichlorophenoxy-acetic acid, dimethyl amine salt solution (<70% dimethylamine salt)	C	C	D	A	•	•
2,4-Dichlorophenoxy-acetic acid, triisopropylamine salt solution	C	C	D	A	•	•
1,2-Dichloropropane	C	C	C	A	•	•
1,3-Dichloropropane	C	C	C	A	•	•
Dichloropropane/dichloropropene mixtures	C	C	C	A	•	•
1,3-Dichloropropene	C	C	C	A	•	•
2,2-Dichloropropionic acid	C	C	D	A	X	•
Dichloropropylene	C	C	C	A	•	•
Dicyclopentadiene	D	D	D	D	X	X
Diesel oil	B	B	B	A	•	•
Diethanolamine	A	A	D	A	•	•
Diethylamine	B	B	D	A	•	•
Diethylamino ethanol	B	B	C	A	•	•
Diethyl benzene	B	B	B	A	•	•
Diethylene dioxide	B	B	B	A	•	•
Diethylene glycol	A	A	A	A	•	•
Diethylene glycol diethyl ether	B	B	B	A	•	•
Diethylene glycol methyl ether	C	C	C	A	•	•
Diethylene glycol monobutyl ether	C	C	C	A	•	•
Diethylene glycol monobutyl ether acetate	C	C	C	A	•	•

Chemical	Hose				Fittings	
	1	2	3	4	CS	SS
Diethylene glycol monoethyl ether	C	C	C	A	•	•
Diethylene glycol monoethyl ether acetate	C	C	C	A	•	•
Diethylene glycol monomethyl ether	C	C	C	A	•	•
Diethylene glycol monomethyl ether acetate	C	C	C	A	•	•
Diethylenetriamine	B	B	D	A	•	•
Diethyl ethanolamine	B	B	D	A	•	•
Diethyl ether	B	B	B	A	•	•
Di(2-ethylhexyl) phosphoric acid	C	C	D	A	X	•
Diethyl ketone	B	B	B	A	•	•
Diethyl oxalate	B	B	B	A	•	•
Diethyl phthalate	A	A	A	A	•	•
Diethyl sebacate	A	A	A	A	•	•
Diethyl sulphate	B	B	D	A	•	•
Diglycidyl ether of bisphenol A	C	C	C	A	•	•
Diisobutylamine	B	B	B	A	•	•
Diisobutylene	B	B	B	A	•	•
Diisobutyl ketone	B	B	B	A	•	•
Diisobutyl phthalate	B	B	B	A	•	•
Diisooctyl adipate	B	B	B	A	•	•
Diisooctyl phthalate	A	A	A	A	•	•
Diisopropanolamine	B	B	D	A	•	•
Diisopropylamine	B	B	D	A	•	•
Diisopropyl benzene (all isomers)	C	C	C	A	•	•
Diisopropyl ether (DIPE)	B	B	B	A	•	•
Diisopropyl ketone	B	B	B	A	•	•
Dimethylamine (<45% - aqueous)	B	B	D	A	•	•
Dimethylamine (45%-55% in solution)	C	C	D	A	•	•
Dimethylamine (55%-65% in solution)	C	C	D	A	•	•
n,n-Dimethylcyclohexylamine	C	C	D	A	•	•
Dimethyl ethanolamine	B	B	D	A	•	•
Dimethyl formamide	A	A	A	A	•	•
Dimethyl hydrogen phosphite	C	C	D	A	X	•
Dimethyl ketone	A	A	A	A	•	•
Dimethyl phthalate	B	B	B	A	•	•
Dimethyl sulphate	B	B	D	A	•	•

Chemical	Hose				Fittings	
	1	2	3	4	CS	SS
Dimethyl sulphide	B	B	B	A	•	•
Dinitrobenzene	C	C	C	A	•	•
Dinitrotoluene (molten)	D	D	D	D	X	X
Diocetylamine	B	B	B	A	•	•
Diocetyl phthalate	B	B	B	A	•	•
Diocetyl sebacate	B	B	B	A	•	•
1 A-Dioxane	C	C	C	A	•	•
DIPE (See Diisopropyl ether)	B	B	B	A	•	•
Dipentene	B	B	B	A	•	•
Diphenyl ether	B	B	B	A	•	•
Diphenylmethane diisocyanate	B	B	B	A	•	•
Diphenyl phthalate	B	B	B	A	•	•
Diphenyl oxide/diphenyl phenyl ether mixture	D	D	D	D	X	X
Di-n-propylamine	B	B	B	A	•	•
Dipropylene glycol	A	A	A	A	•	•
Dipropylene glycol monomethyl ether	C	C	C	A	•	•
Disulphuric acid	D	D	D	A	X	•
Dodecene (all isomers)	C	C	C	A	•	•
Dodecyl alcohol	B	B	B	A	•	•
Dodecyl benzene	B	B	B	A	•	•
Dodecyl benzene sulphonic acid	C	C	D	A	X	•
Dodecyl diphenyl oxide disulphonate solution	C	C	C	A	•	•
Dodecyl methacrylate	D	D	D	D	X	X
Dodecyl-pentadecyl methacrylate mixture	C	C	C	A	•	•
Dodecyl phenol	B	B	B	A	•	•
Epichlorohydrin	B	B	B	A	•	•
Ethyl alcohol	A	A	A	A	•	•
Ethanolamine	A	A	B	A	•	•
Ethoxy ethanol	C	C	C	A	•	•
2-Ethoxyethyl acetate	C	C	C	A	•	•
Ethoxy propanol	C	C	C	A	•	•
Ethyl acetate	C	C	C	A	•	•
Ethyl acrylate	B	B	B	A	•	•
Ethyl aluminum dichloride	D	D	D	A	X	•
Ethylamine	B	B	C	A	•	•
Ethyl benzene	B	B	B	A	•	•
Ethyl butanol	B	B	B	A	•	•
n-Ethyl butylamine	B	B	C	A	•	•
Ethyl chloride	C	C	C	A	•	•

Chemical	Hose				Fittings	
	1	2	3	4	CS	SS
Ethyl cyclohexane	C	C	C	A	•	•
n-Ethyl cyclohexylamine	C	C	C	A	•	•
Ethylene carbonate	B	B	C	A	•	•
Ethylene chloride	C	C	C	A	•	•
Ethylene chlorohydrin	B	B	B	A	•	•
Ethylene cyanohydrin	B	B	B	A	•	•
Ethylene diamine	B	B	B	A	•	•
Ethylene dibromide	B	B	C	A	•	•
Ethylene dichloride	C	C	C	A	•	•
Ethylene glycol	A	A	A	A	•	•
Ethylene glycol methyl butyl ether	B	B	B	A	•	•
Ethylene glycol monobutyl ether	A	A	A	A	•	•
Ethylene glycol monobutyl ether acetate	B	B	B	A	•	•
Ethylene glycol monoethyl ether	A	A	A	A	•	•
Ethylene glycol monomethyl ether	B	B	B	A	•	•
Ethylene glycol monomethyl ether acetate	B	B	B	A	•	•
Ethylene glycol monophenyl ether	B	B	B	A	•	•
Ethylene oxide (dedicated hose)	B	B	D	A	X	•
Ethylene oxide/propylene oxide mixtures (<30% ethylene oxide)	C	C	D	A	X	•
Ethyl ether	B	B	B	A	•	•
Ethyl formate	B	B	D	A	•	•
Ethyl hexanoic acid	B	B	D	A	X	•
Ethyl hexyl alcohol	A	A	A	A	•	•
2-Ethyl hexyl acrylate	B	B	C	A	•	•
2-Ethyl hexylamine	B	B	C	A	•	•
Ethylidene norbornene	C	C	C	A	•	•
Ethyl iodide	C	C	C	A	•	•
Ethyl isobutyl ether	B	B	D	A	•	•
Ethyl methacrylate	C	C	C	A	•	•
2-Ethyl-3-propylacrolein	C	C	C	A	•	•
Ethyl propyl ether	B	B	B	A	•	•
Ethyl propyl ketone	C	C	C	A	•	•
Ethyl silicate	A	A	A	A	•	•
Ethyl sulphate	B	B	B	A	•	•
Ethyl vinyl ether	B	B	B	A	•	•
Fatty acids	A	A	D	A	X	•
Fatty alcohols	A	A	A	A	•	•

Chemical	Hose				Fittings	
	1	2	3	4	CS	SS
Ferrous, ferric salts (excluding halides)	A	B	D	A	•	•
Fluorinated refrigerants		D	D	D	X	•
Fluorine		D	D	D	X	•
Fluosilicic acid	A	A	D	D	X	•
Formaldehyde solution (<45%)	A	A	A	A	•	•
Formamide	A	B	D	A	X	•
Formic acid	A	A	D	A	X	•
Freons		D	D	D	X	•
Fructose	A	A	A	A	•	•
Fruit juices	A	A	D	A	•	•
Fuel oil	B	B	B	A	•	•
Fumaric adduct of rosin (water dispersion)	C	C	C	A	•	•
Furfural	B	B	B	A	•	•
Furfuryl alcohol	B	B	B	A	•	•
Gallic acid solution	A	A	C	A	•	•
Gasoline	B	B	B	A	•	•
Gelatine (aqueous)	A	A	A	A	•	•
Gluconic acid	A	A	C	A	•	•
Glucose (aqueous)	A	A	A	A	•	•
Gluteraldehyde solutions (50% or less)	C	C	C	A	•	•
Glycerine	A	A	A	A	•	•
Glycidyl ester of C10 trialkylacetic acid	C	C	C	A	•	•
Glycolic acid (<37% - aqueous)	A	A	D	A	•	•
Glycols (aqueous)	A	A	A	A	•	•
Green sulphate liquor	B	B	D	A	X	•
Heptane	B	B	B	A	•	•
Heptanoic acid	B	B	D	A	X	•
Heptanol (all isomers)	A	A	A	A	•	•
Heptanone	B	B	B	A	•	•
Heptene (mixed isomers)	A	A	A	A	•	•
Hexamethylene diamine	B	B	D	A	•	•
Hexamethyleneimine	C	C	D	A	•	•
Hexamethylene tetra- mine	B	B	D	A	•	•
1-Hexane	B	B	B	A	•	•
Hexanol	A	A	A	A	•	•
Hexene	A	A	A	A	•	•
Hexyl acetate	C	C	C	A	•	•
Hexylamine	B	B	D	A	•	•
Hexylene glycol	A	A	A	A	•	•

Chemical	Hose				Fittings	
	1	2	3	4	CS	SS
Hydrazine hydrate	B	B	D	A	X	•
Hydrobromic acid (<50%)	A	D	D	D	Poly-propylene	X
Hydrochloric acid (<37%)	C	D	D	D	Poly-propylene	X
Hydrofluoric acid (<50%)	C	D	D	D	Poly-propylene	X
Hydrofluosilicic acid	A	A	D	A	X	•
Hydrogen peroxide (<50%)	B	B	D	A	X	•
Hydrogen sulphide (aqueous - saturated)	A	D	D	D	X	•
Hydroquinone	A	A	A	A	•	•
2-Hydroxyethyl acrylate	C	C	C	A	•	•
Iodine solution	B	D	D	D	•	•
Iron halides	A	D	D	D	Poly-propylene	X
Iron salts (excluding halides - saturated)	A	B	D	A	•	•
Isoamyl acetate	B	B	B	A	•	•
Isoamyl alcohol	B	B	B	D	•	•
Isoamyl bromide	B	D	D	A	X	•
Isoamyl butyrate	B	B	B	A	•	•
Isoamyl chloride	C	C	D	A	X	•
Isoamyl ether	B	B	B	A	•	•
Isobutyl acetate	B	B	B	A	•	•
Isobutyl acrylate	B	B	B	A	•	•
Isobutyl alcohol	A	A	A	A	•	•
Isobutylamine	B	B	D	A	•	•
Isobutyl bromide	B	D	D	D	X	•
Isobutyl chloride	B	D	D	D	X	•
Isobutyl ether	C	C	C	D	•	•
Isobutyl formate	C	C	C	A	•	•
Isobutyl methyl ketone	B	B	B	A	•	•
Isobutyraldehyde	B	B	D	A	•	•
Isodecyl alcohol	A	A	A	A	•	•
Isooctane	C	C	C	A	•	•
Isopentane	C	C	C	A	•	•
Isopentene	C	C	C	A	•	•
Isophorone	B	B	B	A	•	•
Isophorone diamine	C	C	D	A	•	•
Isophorone diisocyanate	C	C	C	A	•	•
Isoprene	B	B	B	A	•	•
Isopropanolamine	B	B	D	A	•	•
Isopropyl acetate	C	C	C	A	•	•
Isopropyl alcohol	A	A	A	A	•	•
Isopropylamine	B	B	D	A	•	•

Chemical	Hose				Fittings	
	1	2	3	4	CS	SS
Isopropyl benzene	B	B	B	A	•	•
Isopropyl chloride	B	D	D	A	X	•
Isopropyl ether	C	C	C	A	•	•
Isopropyl toluene	B	B	B	A	•	•
Isovaleraldehyde	C	C	C	A	•	•
Jams	A	A	B	A	•	•
Jet fuel	C	C	C	A	•	•
Kerosene	B	B	B	A	•	•
Ketones	B	B	B	A	•	•
Lactic acid (<20%)	A	B	D	A	•	•
Lanolin	A	A	A	A	•	•
Lard	A	A	A	A	•	•
Latex (low viscosity)	A	A	A	A	•	•
Lauryl alcohol	B	B	B	A	•	•
Lead salts (saturated)	A	B	D	A	X	•
Ligroin	C	C	C	A	•	•
Limonene	B	B	B	A	•	•
Linseed oil	A	A	A	A	•	•
Lubricating oil	B	B	B	A	•	•
Magnesium salts (saturated)	A	B	D	A	X	•
Maleic acid solution	A	B	D	A	X	•
Maleic anhydride solution	B	B	D	A	X	•
Malic acid solution	B	B	D	A	X	•
Manganese salts (saturated)	A	B	D	A	X	•
MBK (See Methyl butyl ketone)						
MEK (See Methyl ethyl ketone)						
Mercaptobenzothiazol, sodium salt solution	C	C	C	A	•	•
Mercuric chloride (saturated)	A	D	D	D	Poly-propylene	X
Mesityl oxide	A	A	B	A	•	•
Methacrylic acid	B	B	D	A	•	•
Methacrylonitrile	C	C	C	A	•	•
Methanol	C	C	C	A	•	•
Methyl acetate	C	C	C	A	•	•
Methyl aceto acetate	C	C	D	A	X	•
Methyl acetone	B	B	B	A	•	•
Methyl acrylate	B	B	B	A	•	•
Methyl alcohol	A	A	A	A	•	•
Methylamine	B	B	C	A	•	•
Methyl amyl acetate	C	C	C	A	•	•

Chemical	Hose				Fittings	
	1	2	3	4	CS	SS
Methyl amyl alcohol	B	B	B	A	•	•
Methyl amyl ketone	B	B	B	A	•	•
Methyl butyl ketone (MBK)	B	B	B	A	•	•
Methyl butyraldehyde	D	D	D	A	X	•
Methyl cellosolve	B	B	B	A	•	•
Methyl cellosolve acetate	C	C	C	A	•	•
Methyl chloride	D	D	D	A	X	•
Methyl cyanide	B	B	B	A	•	•
Methyl cyclohexane	B	B	B	A	•	•
Methylene bromide	C	C	D	A	•	•
Methylene chloride	C	C	C	A	•	•
Methyl ethyl ketone (MEK)	C	C	C	A	•	•
Methyl ethylpyridine	C	C	C	A	•	•
2-Methyl-5-ethylpyridine	C	C	C	A	•	•
Methyl formate	C	C	C	A	•	•
2-Methyl-2-hydroxy-3-butyne	C	C	C	A	•	•
Methyl isobutyl ketone	C	C	C	A	•	•
Methyl methacrylate	C	C	C	A	•	•
Methyl nitrobenzene	B	B	B	A	•	•
Methyl pentene	B	B	B	A	•	•
2-Methyl-1-pentene	C	C	C	A	•	•
2-Methyl pyridine	B	B	B	A	•	•
4-Methyl pyridine	C	C	C	A	•	•
n-Methyl-2-pyrrolidone	C	C	C	A	•	•
Methyl salicylate	C	C	C	A	•	•
a-Methylstyrene	B	B	B	A	•	•
Methyl tert-butyl ether (MTBE) See also MTBE-Master	C	C	C	A	•	•
Mineral jelly	A	A	A	A	•	•
Mineraloil	B	B	B	A	•	•
Mineral spirits	B	B	B	A	•	•
Molasses	A	A	A	A	•	•
Monoethanolamine	A	A	B	A	•	•
Monoethylamine	B	B	C	A	•	•
Monoisopropanolamine	B	B	D	A	•	•
Mononitrobenzene	B	B	B	A	•	•
Morpholine	B	B	C	A	•	•
Motor fuel anti-knock compounds (unleaded)	B	B	B	A	•	•
MTBE (See Methyl tert-butyl ether)	A	A	A	A	•	•
Naphtha	B	B	B	A	•	•



Chemical	Hose				Fittings	
	1	2	3	4	CS	SS
Naphtha solvent	C	C	C	A	•	•
Naphthalene solution	A	A	A	A	•	•
Naphthalene (molten)	D	D	D	D	X	X
Neodecanoic acid	C	C	D	A	•	•
Neohexane	B	B	B	A	•	•
Nickel chloride (saturated)	A	D	D	D	X	•
Nickel salts (excluding chlorides - saturated)	A	B	D	A	X	•
Nitrating acid (mixture of sulphuric & nitric acids)	D	D	D	D	X	X
Nitric acid (<10%)	A	A	D	A	X	•
Nitric acid (10%-60%)	C	C	D	A	X	•
Nitric acid (>60%)	D	D	D	A	X	•
Nitrobenzene	B	B	B	A	•	•
o-Nitrophenol solution	A	A	D	A	•	•
o-Nitrophenal (molten)	D	D	D	D	X	X
1- or 2-Nitropropane	B	B	B	A	•	•
Nitropropane/nitroethane (60/40 mixture)	C	C	C	A	•	•
o-Nitrotoluene	B	B	B	A	•	•
p-Nitrotoluene	D	D	D	D	X	X
Nonane	B	B	B	A	•	•
Nonyl alcohol	B	B	B	A	•	•
Nonylphenol	B	B	C	A	•	•
Octane	B	B	B	A	•	•
Octanol (all isomers)	B	B	B	A	•	•
Octene (all isomers)	C	C	C	A	•	•
Octyl acetate	C	C	C	A	•	•
Octyl acrylate	B	B	B	A	•	•
Olefins (straight chain mixtures)	C	C	C	A	•	•
a-Olefin mixtures	C	C	C	A	•	•
Oils (most commercial)	B	B	B	A	•	•
Oleic acid	B	B	D	A	X	•
Oleum (Sulphuric acid - fuming)	D	D	D	A	X	•
Oils (most commercial)	B	B	B	A	•	•
Oxalic acid (<50%)	B	B	D	A	X	•
Palm oil	B	B	B	A	•	•
Paraffin wax	A	A	A	A	•	•
Paraldehyde	C	C	C	A	•	•
Pentachloroethane	C	C	C	A	•	•
1,3-Pentadiene	C	C	C	A	•	•
n-Pentane	B	B	B	A	•	•
Pentanol	A	A	A	A	•	•

Chemical	Hose				Fittings	
	1	2	3	4	CS	SS
Pentanone	B	B	B	A	•	•
Pentene (all isomers)	B	B	B	A	•	•
Perchloric acid (<50%)	B	D	D	D	X	•
Perchloroethylene	C	C	C	A	X	•
Petrolatum	A	A	A	A	•	•
Petroleum	A	A	A	A	•	•
Petroleum ether	C	C	C	A	•	•
Petroleum naphtha	C	C	C	A	•	•
Phenol	A	A	B	A	X	•
Phenoxyethanol	C	C	C	A	•	•
Phenylhydrazine	C	C	D	A	X	•
1-Phenyl-1-xylyl ethane	C	C	C	A	•	•
Phosphoric acid (<95%)	A	A	D	A	X	•
Phosphorus (yellow or white)	D	D	D	D	X	X
Phosphorus oxychloride	C	D	D	D	Poly-propylene	
Phosphorus pentoxide	A	B	D	A	X	•
Phosphorus trichloride	B	D	D	D	X	•
Phthalic acid (<50%)	B	B	D	A	X	•
Phthalic anhydride	D	D	D	D	X	X
Picric acid (1%)	B	B	D	A	X	•
Pinene	B	B	B	A	•	•
Pine oil	B	B	B	A	•	•
Plasticisers (most commercial)	B	B	B	A	•	•
Polyethylene glycol	B	B	B	A	•	•
Polyethylene polyamines	C	C	D	A	X	•
Polymethylene polyphenyl isocyanate	B	B	B	A	•	•
Polypropylene glycol	B	B	B	A	•	•
Potassium halides	A	D	D	D	X	•
Potassium hydroxide solution	C	C	D	A	X	•
Potassium salts (excluding halides - saturated)	A	B	D	A	X	•
n-Propanolamine	C	C	D	A	X	•
Propenoic acid	B	B	D	A	X	•
a-Propiolactone	C	C	C	A	•	•
Propionaldehyde	C	C	C	A	•	•
Propionic acid	B	B	D	A	X	•
Propionic anhydride	C	C	D	A	X	•
Propionitrile	C	C	C	A	•	•
Propyl acetate	C	C	C	A	•	•
Propyl alcohol	A	A	A	A	•	•
Propylamine	B	B	D	A	•	•

Chemical	Hose				Fittings	
	1	2	3	4	CS	SS
Propylene (tetramer & trimer)	C	C	C	A	X	•
Propylene dimer	C	C	C	A	•	•
Propylene glycol	A	A	A	A	•	•
Propylene glycol monoethyl ether	B	B	B	A	•	•
Propylene glycol monomethyl ether	B	B	B	A	•	•
Propylene oxide (dedicated hose)	B	B	D	A	•	•
Prussic acid	A	A	D	A	X	•
Pyridine	B	B	D	A	•	•
Pyrosulphuric acid	D	D	D	A	X	•
Rosin	C	C	C	A	•	•
Rosin soap solution (disproportionated)	C	C	C	A	•	•
Salt solutions (excluding halides)	A	B	D	A	•	•
Sea water	A	D	D	A	X	•
Sewage	B	B	D	A	•	•
Silicon oil	A	A	A	A	•	•
Silver halides (saturated)	A	D	D	D	Poly-propylene	
Silver salts (excluding halides - saturated)	A	B	D	A	•	•
Soap solutions	A	A	B	A	•	•
Sodium borohydride/sodium hydroxide solution (15% or less sodium hydroxide)	C	C	D	A	•	•
Sodium chlorate solution (50% or less)	A	A	D	A	X	•
Sodium chloride (saturated)	A	B	D	A	X	•
Sodium chromate	B	B	B	A	•	•
Sodium dichromate solution (70% or less)	C	C	D	A	X	•
Sodium hydrosulphide solution (45% or less)	A	B	D	A	•	•
Sodium hydrosulphidelammonium sulphide solution	C	C	D	A	X	•
Sodium hypochlorite (<15%)	C	C	D	A	X	•
Sodium hydroxide solution	A	A	C	A	•	•
Sodium salts (excluding halides - saturated)	A	B	D	A	•	•
Stannous, stannic salts (excluding halides)	A	B	D	A	•	•
Starch (aqueous)	A	A	B	A	•	•

Chemical	Hose				Fittings	
	1	2	3	4	CS	SS
Styrene monomer	B	B	B	A	•	•
Sugar syrup	A	A	A	A	•	•
Sulphamic acid	A	A	D	A	X	•
Sulpholane	D	D	D	D	X	X
Sulphonyl chloride	D	D	D	D	•	•
Sulphur (molten)	D	D	D	D	X	X
Sulphur chloride	D	D	D	D	X	•
Sulphur dioxide	C	C	D	A	X	•
Sulphuric acid (<20%)	B	B	D	A	•	•
Sulphuric acid (20%-85%)	B	D	D	D	Poly-propylene	X
Sulphuric acid (>85%)	C	C	D	A	•	•
Sulphuric acid (fuming - see Oleum)						
Sulphuric acid (spent)	C	C	D	A	X	•
Sulphurous acid	B	B	D	A	•	•
Sulphuryl chloride	D	D	D	D	X	X
TAE (See Tertiary amyl ethyl ether)				A		
Tall oil (crude and distilled)	A	A	A	A	•	•
Tall oil fatty acid (<20% resin acids)	C	C	C	A	X	•
Tallow	A	A	A	A	•	•
TAME (See Tertiary amyl methyl ether)	C	C	C	A		
Tannic acid (<10%)	A	A	D	A	X	•
Tartaric acid	A	B	D	A	X	•
Tertiary amyl ethyl ether (TAE)	C	C	C	A	•	•
Tertiary amyl methyl ether (TAME)	C	C	C	A	•	•
Tetrachloroethane	C	C	C	A	•	•
Tetrachloroethylene	C	C	C	A	•	•
Tetraethylene glycol	B	B	B	A	•	•
Tetraethylene pentamine	C	C	D	A	•	•
Tetrahydrofuran	C	C	C	A	•	•
Tetrahydronaphthalene	C	C	C	A	•	•
Thionyl chloride	D	D	D	D	X	•
Tin halides	A	D	D	D	Poly-propylene	X
Tin salts (excluding halides - saturated)	A	B	D	A	•	•
Titanium tetrachloride	C	D	D	D	Poly-propylene	X
Toluene	C	C	C	A	•	•
Toluene diamine	D	D	D	D	X	X
Toluene diisocyanate	B	B	B	A	•	•

Chemical	Hose				Fittings	
	1	2	3	4	CS	SS
o-Toluidine	B	B	C	A	•	•
Transformer oil	B	B	B	A	•	•
Transmission oil	B	B	B	A	•	•
Tributylamine	B	B	B	A	•	•
Tributyl phosphate	B	B	B	A	•	•
Trichloroacetic acid (10% or less)	A	B	D	D	X	X
1,2,4-Trichlorobenzene	C	C	C	A	•	•
1, 1, 2-Trichloroethane	C	C	C	A	•	•
1, 1, 1-Trichloroethane	C	C	C	A	•	•
Trichloroethylene	C	C	C	A	•	•
Trichloropropane	C	C	C	A	•	•
1, 1, 2-Trichloro-1, 2, 2-trifluoroethane	D	D	D	D	X	X
Tricresyl phosphate (<1% ortho isomer)	B	B	B	A	•	•
Tridecanol	B	B	B	A	•	•
Triethanolamine	B	B	D	A	•	•
Triethylamine	B	B	D	A	•	•
Triethylbenzene	B	B	B	A	•	•
Triethylene glycol	A	A	A	A	•	•
Triethylene tetramine	B	B	D	A	•	•
Triethyl phosphite	C	C	D	A	X	•
Triisopropanolamine	B	B	D	A	•	•
Trimethyl acetic acid	A	A	D	A	•	•
1,2,4-Trimethylbenzene	B	B	B	A	•	•
Trimethylhexamethylene diamine (2, 2, 4- & 2, 4, 4-isomers)	C	C	D	A	•	•
Trimethylhexamethylene diisocyanate (2, 2, 4- & 2, 4, 4-isomers)	C	C	C	A	•	•
2, 2, 4-Trimethyl-1,3-pentanediol-1-isobutyrate	C	C	C	A	•	•
Trimethyl phosphite	C	C	C	A	•	•
Trioctyl phosphate	B	B	B	A	•	•
Tripropylene glycol	A	A	A	A	•	•
Tripropylene glycol monomethyl ether	C	C	C	A	•	•
Tritolyl phosphate	B	B	B	A	•	•
Trixylenyl phosphate	B	B	B	A	•	•
Turpentine	C	C	C	A	•	•
1-Undecene	C	C	C	A	•	•
Undecyl acid	C	C	C	A	•	•
Urea (aqueous)	A	B	B	A	•	•
Urea/ammonia salt solutions	A	B	B	A	•	•

Chemical	Hose				Fittings	
	1	2	3	4	CS	SS
Urea/ammonia solutions	A	B	B	A	•	•
n-Valeraldehyde	C	C	C	A	•	•
Varsol	A	A	A	A	•	•
Vaseline	A	A	A	A	•	•
Vegetable oils	A	A	A	A	•	•
Vinegar	A	A	D	A	X	•
Vinyl acetate	B	B	C	A	•	•
Vinyl chloride monomer (VCM)		D	D	D	X	•
Vinyl ethyl ether	C	C	C	A	•	•
Vinylidene chloride	C	C	C	A	•	•
Vinyl neodecanoate	C	C	C	A	•	•
Vinyl toluene	B	B	C	A	•	•
Water	A	A	A	A	•	•
White spirit (low aromatic 15% - 20%)	B	B	B	A	•	•
Wine	B	B	D	A	X	•
Xylene	C	C	C	A	•	•
Xylenols	B	B	B	A	•	•
Yeast (aqueous)	A	A	D	A	X	•
Zinc halides	A	D	D	D	Poly-propylene	X
Zinc salts (excluding halides - aqueous)	A	B	D	A	•	•



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