



## Composite Hose Chemical Resistance Chart

### **Canada**

#### **Ajax, Ontario**

Tel: 905.686.5200

Fax: 905.686.8349

### **U.K.**

#### **Bromborough, Wirral**

Tel: 44(0)151.334.0873

Fax: 44(0)151.334.7145

sales@novaflex.co.uk

### **U.S.A.**

#### **West Berlin, NJ**

Tel: 856.768.2275

Fax: 856.768.2385

1.800.225.0215

#### **Indianapolis, IN**

Tel: 317.334.1444

Fax: 317.334.1535

1.800.526.6288

#### **Burlington, NC**

Tel: 336.578.2161

Fax: 336.578.5554

1.800.334.4270

**Website: [www.novaflex.com](http://www.novaflex.com) Email: [sales@novaflex.com](mailto:sales@novaflex.com)**

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## Composite Chemical Resistance Information

This Novaflex document provides essential information that will facilitate the safe use of rubber and composite type chemical hoses.

Chemical hose users are cautioned that this Chemical Resistant has been developed from generally accepted industry standards. The ratings listed beneath each Elastomer are the base ratings for the chemical listed. This rating is based on the application temperature not exceeding 70°F (21.1°C) unless otherwise specified. The degree an Elastomer will resist the effects of a specific chemical depends on several variables. It is recommended that a hose with the highest resistant tube to the chemical transferred be used in the application for safety.

1. **Concentration** of the chemical is very significant (some chemicals may react with an Elastomer differently based on the level of concentration).
2. **Temperature** - as the temperature increases the deteriorative effect of a chemical may greatly increase on an Elastomer.
3. **Time** - the longer the duration the chemical is in contact with the Elastomer, the greater the deteriorative effect.
4. **Stability of the Chemical** - Chemical solutions (combining of different chemicals) may increase the deteriorative effect.
5. **Elastomer Grade** - There are different grades of specific Elastomer used in hose. The grade of Elastomer used may effect the resistance level of the hose to a specific chemical. It is recommended that only hose listed for chemical service be use.
6. **Safety**
  - a. Chemical hose tube must be inspected for discoloration, cracks or damage before each use in accordance with Novaflex "Proper Use, Care and Maintenance" booklet.
  - b. Never use damaged hose, remember all hose will fail in time! Err on the side of Safety, When in doubt about the condition of a hose, remove it from service!
  - c. Chemical hose should be have the ends capped when not in use to keep out moisture and other elements that can cause chemical reactions.
  - d. Chemical hose should be cleaned after use to remove chemical residue.

**These charts are offer as a guide only, when in doubt contact Novaflex for assistance. It is recommended that the hose user test the hose under all operating conditions to which the hose might be subjected to insure safe performance.**

<b>Indianapolis, IN</b>	Tel 317.334.1444	Fax 317.334.1535	800.526.6288
<b>Burlington, NC</b>	Tel 336.578.2161	Fax 336-578.5554	800.334.4270
<b>West Berlin, NJ</b>	Tel 856.768.2275	Fax 856.768.2385	800.225.0215
<b>Ajax, ON</b>	Tel 905.686.5200	Fax 905.686.8349	
<b>Bromborough, UK</b>	Tel 44(0)151.334.0873	Fax 44(0) 151.337.7145	

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**SUITABILITY IS INDICATED BY THE FOLLOWING CATEGORIES:**

**A - SUITABLE** for use at 212° F

**B - SUITABLE** for use at worldwide ambient temperatures

**I - SUITABLE** for INTERMITTENT use only at worldwide AMBIENT temperatures. Intermittent use is typical of ship to shore or road tanker transfer operations where the hose is not left full of product after use

**X - UNSUITABLE - Do not use**

**COUPLING TYPE**

**U - Couplings unsuitable or no data available**

**S - Couplings suitable for the operating conditions applicable to the hose**

**HOSE TYPES including INNER WIRE**

**1 - Uni-Oil Hoses, Pumpflex, Uni-VAPGG Galvanized Carbon Steel**

**2 - Uni-Chem PG, PS, Polypropylene Coated Steel**

**3 - Uni-Chem SG and SS 316L Stainless Steel**

**4 - Uni-Flon & Uni-Flon HT, SG & SS 316LSS Inner Wire**

**5 - Uni-Zene - (Nylon) Galvanized Carbon Steel**

PRODUCT	Concentration Percentage	HOSE TYPE					COUPLING TYPE		
		1	2	3	4	5	Carbon Steel	Stainless Steel	Polypro
ACETALDEHYDE	100	X	I	I	A	X	U	S	S
ACETAMIDE	60	X	A	A	A	X	U	S	S
ACETIC ACID	20	X	A	A	A	-	U	S	S
ACETIC ACID	GLACIAL	X	B	A	A	X	U	S	S
ACETIC ANHYDRIDE	100	X	B	B	A	X	U	S	S
ACETONE	100	A	A	A	A	A	S	S	S
ACETONE CYANOHYDRIN	-	X	B	B	A	-	S	S	S
ACETONITRILE	-	B	B	B	A	B	S	S	S
ACETOPHENONE	100	B	B	B	A	-	S	S	S
ACETYLACETONE	100	B	B	B	A	A	S	S	S
ACETYLENE DICHLORIDE	100	B	B	B	A	-	S	S	S
ACROLEIN	100	B	B	B	A	-	S	S	S
ACRYLIC ACID	-	X	B	B	B	-	U	S	S
ACRYLONITRILE	100	X	A	A	A	A	U	S	S
ADIPIC ACID	SATURATED	A	A	A	A	A	U	S	S
ALLYL ALCOHOL	100	A	A	A	A	A	S	S	S
ALLYL BROMIDE	100	I	I	I	B	I	S	S	S
ALLYL CHLORIDE	100	I	I	I	B	I	S	S	S
ALUMS	SATURATED	A	A	A	A	A	S	S	S
ADIPONITRILE	100	B	B	B	A	-	S	S	S
ALUMINUM NITRATE	SATURATED	X	B	B	A	X	S	S	S

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PRODUCT	Concentration Percentage	HOSE TYPE					COUPLING TYPE		
		1	2	3	4	5	Carbon Steel	Stainless Steel	Polypro
ALUMINIUM CHLORIDE	SATURATED	X	B	B	A	X	U	U	S
AMINOETHYL ETHANOLAMINE	-	X	B	B	A	X	S	S	S
AMMONIA SOLUTION	-	X	A	A	A	X	S	S	S
AMMONIUM SALTS	SATURATED	X	A	B	B	A	S	S	S
AMMONIUM CHLORIDE *	SATURATED	X	A	I	I	A	U	U	S
AMYL ACETATE	100	I	I	A	A	B	S	S	S
AMYL ALCOHOL	100	B	B	A	A	A	S	S	S
AMYL CHLORIDE	100	I	I	I	A	I	S	S	S
ANILINE	100	A	A	A	A	X	S	S	S
ANIMAL OIL	100	A	A	A	A	A	S	S	S
ANISOLE	100	I	I	I	A	-	U	S	S
ANTIMONY CHLORIDE	ALL	X	B	B	B	X	U	S	S
AQUA REGIA *	-	X	I	X	X		U	U	S
ARSENIC ACID	80	X	B	B	A	X	U	S	S
AVIATION FUEL	100	I	I	I	B	A	S	S	S
BARIUM SALTS	SATURATED	X	A	A	A	A	S	S	S
BEER	-	X	A	A	A	X	S	S	S
BENZALDEHYDE	-	X	I	I	A	X	U	S	S
BENZENE	-	X	X	X	A	A	S	S	X
BENZOIC ACID	-	X	A	A	A	X	S	S	S
BUTYL CARBITOL ACETATE	-	I	I	I	A	-	S	S	S
BUTYL CELLULOSE	-	A	A	A	A	-	S	S	S
BUTYL CELLULOSE ACETATE	-	I	X	X	A	-	S	S	S
BUTYL/DECYL/CETYL-EICOSYLMETHACRYLITE MIXTURE	-	X	X	X	B	-	U	S	U
BUTYLENE GLYCOL	100	A	A	A	A	I	S	S	S
BUTYL ETHER	-	B	B	B	A	A	S	S	S
BUTYL ETHYL ETHER	-	B	B	B	A	A	S	S	S
BUTYL METHACRYLATE	-	I	I	I	A	-	S	S	S
BUTYL METHOXETHYL ETHER	-	I	I	I	A	-	S	S	S
BUTYL PHTHALATE	-	A	A	A	A	A	S	S	S
BUTYL STEARATE	-	B	B	B	A	A	S	S	S
BUTRALDEHYDE	-	X	X	X	A	-	U	S	U
BUTYRIC ACID	20	B	B	B	A	-	S	S	S
BUTYROLACTONE	-	I	I	I	A	-	S	S	S
CALCIUM SALTS	SATURATED	X	A	A	A	X	S	S	S
CALCIUM ALKYL SALICYLATE SOLUTION	-	X	A	A	A		S	S	S
CALCIUM CHLORIDE	SATURATED	X	A	I	I	X	S	S	S
CALCIUM HYPOCHLORITE	20	X	B	I	I	X	U	S	S
CAMPHOR OIL	-	I	I	I	A	A	S	S	S
CAPRYLIC ACID	-	A	A	A	A	X	S	S	S

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PRODUCT	Concentration Percentage	HOSE TYPE					COUPLING TYPE		
		1	2	3	4	5	Carbon Steel	Stainless Steel	Polypro
CARBINOLS	-	B	B	B	A	-	S	S	S
CARBITOLS	-	B	B	B	A	-	S	S	S
CARBITOL ACETATE	-	I	I	I	A	-	S	S	S
CARBOLIC OIL	-	I	I	I	A	-	S	S	S
CARBON DISULPHIDE	100	X	X	X	A	X	S	S	S
CARBON TETRACHLORIDE	-	I	I	I	A	A	S	S	S
CARBONIC ACID	-	X	A	A	A	X	U	S	S
CASHEW NUT SHELL OIL	-	B	B	B	A	A	S	S	S
CAUSTIC POTASH	50	I	A	A	A	X	S	S	S
CAUSTIC SODA	50	I	A	A	A	X	S	S	S
CHLOROATIC ACID *	100	X	B	X	X	X	U	U	S
CHLOROBENZENE	-	I	I	I	A	B	S	S	S
CHLOROBUTANE	-	I	I	I	A	B	S	S	S
CHLOROFORM	-	I	I	I	A	B	S	S	S
CHLOROHYDRINS	-	I	I	I	A	-	U	S	S
CHLOROPRENE	-	I	I	I	A	-	U	S	S
CHLOROPROPIONIC ACID	-	X	I	X	X	X	U	U	S
CHLOROSULPHONIC ACID *	100	X	X	X	X	X	U	U	U
CHLOROTOLUENE	100	X	X	X	A	B	S	S	U
CHROME ALUM	SATURATED	X	A	A	A	X	S	S	S
CHROMIC ACID AQUEOUS	50	X	I	I	B	X	U	S	S
CITRIC ACID	100	X	A	A	A	X	U	S	S
COAL TAR NAPHTHA	-	B	B	B	A	A	S	S	S
COPPER SALTS	SATURATED	X	B	B	A	X	S	S	S
COPPER CHLORIDE *	SATURATED	X	A	X	X	X	U	U	S
CREOSOTE (WOOD OR COALTAR)	100	B	B	B	A	X	S	S	S
CRESOLS	90	B	B	B	A	X	S	S	S
CRESYLIC ACIDS	90	B	B	B	A	X	S	S	S
CROTONALDEHYDE	100	X	X	X	A	X	S	S	U
CUMENE	100	B	B	B	A	X	S	S	S
CYCLOHEXANE	100	B	B	B	A	A	S	S	S
CYCLOHEXANOL	100	B	B	B	A	B	S	S	S
CYCLOHEXANONE	100	I	I	I	A	-	S	S	S
CYCLOHEXYLAMINE	100	B	B	B	A	X	S	S	S
CYCLOPENTANE	100	B	B	B	A	A	S	S	S
P•CYMENE	100	B	B	B	A	-	S	S	S
DECALIN	100	X	X	X	A	A	U	S	U
DECYL ALCOHOL	100	B	B	B	A	-	S	S	S
DECYL ACRYLATE	100	B	B	B	A	-	S	S	S
DETERGENTS	5	A	A	A	A	A	S	S	S
DEXYTRIN	100	A	A	A	A	A	S	S	S

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PRODUCT	Concentration Percentage	HOSE TYPE					COUPLING TYPE		
		1	2	3	4	5	Carbon Steel	Stainless Steel	Polypro
DIACETONE ALCOHOL	100	B	B	B	A	-	S	S	S
DIAMINOETHYLAMINE	100	X	B	B	A	X	S	S	S
DIAMYLAMINE	100	X	B	B	A	X	S	S	S
DIBROMOETHANE	100	X	B	B	A	B	S	S	S
DIBUTYLAMINE	100	I	B	B	A	X	S	S	S
DIBUTYL ETHER	100	I	I	A	A	A	S	S	S
DIBUTYLPHTHALATE	100	B	B	B	A	A	S	S	S
DIBUTYL SEBACATE	100	B	B	B	A	-	S	S	S
DICHLOROACETIC ACID *	100	X	I	X	X	X	U	U	S
DICHLOROBENZENE	100	I	I	I	A	-	S	S	S
DICHLOROBUTANE	100	I	I	I	A	A	S	S	S
DICHLOROETHYLENE	100	I	I	I	A	A	S	S	S
DICHLOROETHYLETHER	100	I	I	I	A	-	S	S	S
DICHLOROMETHANE	100	I	I	I	A	A	S	S	S
DICHLOROPROPANE	100	I	I	I	A	A	S	S	S
DICHLOROPROPYLENE	100	I	I	I	A	A	S	S	S
DICHLOROPROPIONIC ACID	-	X	I	I	I	X	U	S	S
DICYCLOPENTADIENE	-	X	X	X	X	X	U	U	U
DIESEL OIL	100	B	B	B	A	A	S	S	S
DIETHANOLAMINE	100	I	A	A	A	X	S	S	S
DIETHYLAMINE	100	X	A	A	A	X	S	S	S
DIETHYLAMINOETHANOL	100	I	B	B	A	X	S	S	S
DIETHYLBENZENE	100	B	B	B	A	A	S	S	S
DIETHYLENE GLYCOL	100	A	A	A	A	A	S	S	S
DIETHYLENE GLYCOL DIETHYL ETHER	B	B	B	A	-	S	S	S	S
DIETHYLENE GLYCOL MONOBUTYL ETHER	-	I	I	I	A	-	S	S	S
DIETHYLENE GLYCOL MONOETHYL ETHER	-	I	I	I	-	-	S	S	S
DIETHYLENE GLYCOL MONOETHYL ETHER ACETATE	-	I	I	I	A	-	S	S	S
DIETHYLENE GLYCOL MONOMETHYL ETHER	-	I	I	I	A	-	S	S	S
DIMETHYLAMINE	100	B	B	B	A	X	S	S	S
DIMETHYL ETHANOLAMINE	100	I	B	B	A	X	S	S	S
DIMETHYL FORMAMIDE	100	A	A	A	A	X	S	S	S
DIMETHYL PHTHALATE	100	B	B	B	A	A	S	S	S
DIMETHYL SULPHATE	100	X	B	B	A	-	S	S	S
DIMETHYL SULPHIDE	100	B	B	B	A	-	S	S	S
DINITROBENZENE	100	I	I	I	A	-	S	S	S
DIOCTYLPHALATE	100	B	B	B	A	A	S	S	S
DIOCTYL SEBACATE	100	B	B	B	A	-	S	S	S
DIOXANE	100	B	B	B	A	A	S	S	S
DIPENTENE	100	B	B	B	A	A	S	S	S
DIPHENYL ETHER	100	B	B	B	A	X	S	S	S

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PRODUCT	Concentration Percentage	HOSE TYPE					COUPLING TYPE		
		1	2	3	4	5	Carbon Steel	Stainless Steel	Polypro
DIPHENYL PHTHALATE	100	B	B	B	A	-	S	S	S
DIPROPYLAMINE	100	B	B	B	A	X	S	S	S
DIPROPYLENE GLYCOL	100	A	A	A	A	A	S	S	S
MONOMETHYL ETHER	100	I	I	I	A	-	S	S	S
DODECYL ALCOHOL	100	B	B	B	A	A	S	S	S
DETHYLENE GLYCOL MONOMETHYL ETHER ACETATE	-	I	I	I	A	-	S	S	S
DIETHYLENETRIAMINE	100	X	B	B	A	X	S	S	S
DIETHYL ETHANOLAMINE	-	X	B	B	A	X	S	S	S
DIETHYL ETHER	100	B	B	B	A	A	S	S	S
DIETHYL KETONE	100	B	B	B	A	A	S	S	S
DIETHYL OXALATE	100	B	B	B	A	-	S	S	S
DIETHYL PHTHALATE	100	A	A	A	A	A	S	S	S
DIETHYL SEBACATE	100	A	A	A	A	-	S	S	S
DIETHYL SULPHATE	100	X	B	B	A	-	S	S	S
DIISOBUTYLENE	-	I	I	I	A	A	S	S	S
DIISOBUTYL KETONE	100	B	B	B	A	A	S	S	S
DIISOBUTYL PHTHALATE	100	B	B	I	A	A	S	S	S
DIISOCTYL ADIPATE	100	B	B	B	A	A	S	S	S
DIISOCTYL PHTHALATE	-	A	A	A	A	A	S	S	S
DIISOPROPANOLAMINE	100	B	B	B	A	X	S	S	S
DIISOPROPYLAMINE	100	B	B	B	A	X	S	S	S
DIISOPROPYL ETHER	100	B	B	B	A	A	S	S	S
DIISOPROPYL KETONE	100	B	B	B	A	A	S	S	S
DODECYL BENZENE	100	B	B	B	A	-	S	S	S
DODECYL PHENOL	100	B	B	B	A	X	S	S	S
EPICHLOROHYDRIN	100	B	B	B	A	-	S	S	S
ETHANOL	100	A	A	A	A	A	S	S	S
ETHANOLAMINE	100	B	A	A	A	X	S	S	S
ETHOXY ETHANOL	-	X	I	I	A	-	S	S	S
ETHOXY PROPANOL	-	X	I	I	A	-	S	S	S
ETHYL ACETATE	100	X	I	I	A	A	S	S	S
ETHYL ACRYLATE	100	A	A	A	A	S	S	S	S
ETHYL ALUMINIUM DICHLORIDE	-	X	X	X	X	X	U	U	U
ETHYLAMINE	100	I	B	B	A	X	S	S	S
ETHYLBENZENE	100	B	B	B	A	A	S	S	S
ETHYL BUTANOL	100	B	B	B	A	A	S	S	S
ETHYL CHLORIDE	100	I	I	I	A	A	S	S	S
ETHYL CYCLOHEXANE	-	I	I	I	A	-	S	S	S
ETHYLENE CARBONATE	100	I	B	B	A	-	S	S	S
ETHYLENE CHLORIDE	100	I	I	I	A	B	S	S	S
ETHYLENE CHLOROXYDRIN	100	B	B	B	A	-	S	S	S

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PRODUCT	Concentration Percentage	HOSE TYPE					COUPLING TYPE		
		1	2	3	4	5	Carbon Steel	Stainless Steel	Polypro
ETHYLENE CYANOHYDRIN	100	X	I	I	A	-	S	S	S
ETHYLENE DIAMINE	100	B	B	B	A	X	S	S	S
ETHYLENE DIBROMIDE	100	I	B	B	A	A	U	S	S
ETHYLENE DICHLORIDE	100	X	I	I	A	A	U	S	S
ETHYLENE GLYCOL	100	A	A	A	A	A	S	S	S
ETHYLENE GLYCOL MONOBUTYL ETHER	100	A	A	A	A	-	S	S	S
ETHYLENE GLYCOL		A	A	A	A	A	S	S	S
METHYL BUTYL ETHER	-	I	B	B	A	-	S	S	S
ETHYLENE GLYCOL		A	A	A	A	A	S	S	S
MONOBUTYL ETHER ACETATE	-	B	B	B	A	S	-	S	S
MONOETHYL ETHER	100	A	A	A	A	-	S	S	S
ETHYL FORMATE	100	X	B	B	A	-	S	S	S
ETHYLENE OXIDE	100	X	B	B	A	A	U	S	S
ETHYLENE GLYCOL		A	A	A	A	A	S	S	S
MONOETHYL ETHER ACETATE	-	B	B	B	A	S	-	S	S
ETHYL HEXYLACRYLATE	100	X	B	B	A	-	S	S	S
2-ETHYL HEXYLAMINE	-	I	B	B	A	X	S	S	S
ETHYL IODIDE	100	I	I	I	A	B	S	S	S
ETHYL ISOBUTYL ETHER	100	X	B	B	A	A	S	S	S
ETHYL METHACRYLATE	-	I	I	I	A	-	S	S	S
2-ETHYL-3-PROPYLACROLEIN	-	I	I	I	A	-	S	S	S
ETHYL PROPYL ETHER	100	B	B	B	A	A	S	S	S
ETHYL PROPYL KETONE	100	I	I	I	A	B	S	S	S
ETHYL SILICATE	100	A	A	A	A	-	S	S	S
ETHYL SULPHATE	100	B	B	B	A	-	S	S	S
ETHYL VINYL ETHER	100	B	B	B	A	A	S	S	S
ETHOXYETHYL ACETATE	100	B	B	B	A	-	S	S	S
FATTY ACIDS	100	X	A	A	A	-	U	S	S
FLUORINATED REFRIGERANTS	-	CONSULT TECHNICAL SALES							
FLUORINE	-	CONSULT TECHNICAL SALES							
FLUOSILIC ACID	-	X	A	A	A	X	U	S	S
FORMALDEHYDE SOLUTION	45	X	A	A	A	X	S	S	S
FORMAMIDE	100	X	A	B	B	-	U	S	S
FORMIC ACID	100	X	A	B	B	X	U	S	S
FREONS	-	CONSULT TECHNICAL SALES							
FRUIT JUICES	-	X	A	A	A	-	S	S	S
FRUCTOSE	100	A	A	A	A	A	S	S	S
FUEL OIL	100	B	B	B	A	A	S	S	S
FURFURAL	100	I	I	I	A	-	S	S	S
FURFURAL ALCOHOL	100	I	I	I	A	-	S	S	S
GALLIC ACID SOLUTION	ALL	X	A	A	A	-	S	S	S



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PRODUCT	Concentration Percentage	HOSE TYPE					COUPLING TYPE		
		1	2	3	4	5	Carbon Steel	Stainless Steel	Polypro
GASOLINE	100	B	B	B	A	A	S	S	S
GELATINE AQUEOUS	ALL	A	A	A	A	-	S	S	S
GLUCONIC ACID	ALL	I	A	A	A	-	S	S	S
GLUCOSEAQUEOUS	ALL	A	A	A	A	A	S	S	S
GLYCERINE	ALL	A	A	A	A	A	S	S	S
GLYCOLS AQUEOUS	ALL	A	A	A	A	A	S	S	S
HEPTANE	-	B	B	B	A	A	S	S	S
HEPTANOIC ACID	-	X	B	B	A	-	U	S	S
HEPTANOL	100	A	A	A	A	A	S	S	S
EPTANONE	100	B	B	B	A	-	S	S	S
HEPTENE	100	B	B	B	A	A	S	S	S
HEXANE	100	B	B	B	A	A	S	S	S
HEXANOL	100	A	A	A	A	A	S	S	S
HEXYLAMINE	100	X	B	B	A	X	S	S	S
HEXYLENE	100	B	B	B	A	A	S	S	S
HEXYLENE GLYCOL	100	A	A	A	A	-	S	S	S
HYDRAZINE HYDRATE	-	X	B	B	B	X	U	S	S
HYDROBROMIC ACID *	50	X	A	X	X	X	U	U	S
HYDROCHLORIC ACID *	30	X	B	X	X	X	U	U	S
HYDROCHLORIC ACID AQUEOUS	37	X	I	X	X	X	U	S	S
HYDROFLUORIC ACID *	60	X	B	X	X	X	U	U	S
HYDROFLUORIC ACID *	40	X	A	X	X		U	U	S
HYDROFLUOSILICIC ACID	20	X	A	A	A	X	U	S	S
HYDROGEN PEROXIDE AQUEOUS	90	X	B	B	B	X	U	S	S
HYDROGEN SULPHIDE AQUEOUS *	SATURATED	X	A	B	B	X	U	S	S
2-HYDROXYETHYL ACRYLATE	-	I	I	I	A	X	S	S	S
HEXAMETHYLENE DIAMINE	100	X	B	B	A	X	S	S	S
HEXAMETHYLENE TETRAMINE	100	X	B	B	A	X	S	S	S
HYDROQUINONE	100	A	A	A	A	A	S	S	S
HYDROXY ETHYL ETHYLENE DIAMINE	100	I	I	I	A	X	S	S	S
IODINE SOLUTION *	SATURATED	X	A	X	X	X	U	U	S
IRON SALTS (NOT HALIDES)	SATURATED	X	A	A	A	X	S	S	S
IRON HALIDES *	SATURATED	X	A	X	X	X	U	U	S
ISOAMYL ACETATE	-	I	I	I	A	A	S	S	S
ISOMYL ALCOHOL	100	B	B	A	A	A	S	S	S
ISOAMYL BROMIDE	100	X	B	X	X	X	U	S	S
ISOAMYL BUTYRATE	100	X	B	B	A	-	S	S	S
ISOAMYL CHLORIDE	100	X	I	I	A	X	U	S	S
ISOAMYL ETHER	100	B	B	B	A	A	S	S	S
ISOBUTYL ALCOHOL	100	A	A	A	A	A	S	S	S
ISOBUTYL ACETATE	100	I	I	I	A	A	S	S	S

## Composite Hose Chemical Resistance Chart

PRODUCT	Concentration Percentage	HOSE TYPE					COUPLING TYPE		
		1	2	3	4	5	Carbon Steel	Stainless Steel	Polypro
ISOBUTYL ACRYLATE	100	B	B	B	A	B	S	S	S
ISOBUTYLAMINE	100	X	B	B	A	X	S	S	S
ISOBUTYL BROMIDE	100	X	B	X	X	-	-	S	S
ISOBUTYL CHLORIDE	100	X	B	X	X	-	-	S	S
ISOBUTYL METHYL KETONE	100	B	B	B	A	A	S	S	S
ISOBUTYRALDEHYDE	100	X	X	X	A	X	U	S	U
ISOBUTYL ETHER	100	I	I	I	A	A	S	S	S
ISOOCTANE	100	I	I	I	A	A	S	S	S
ISODECYL ALCOHOL	100	A	A	A	A	A	S	S	S
ISOPENTANE	100	I	I	I	A	A	S	S	S
ISOPENTENE	100	I	I	I	A	A	S	S	S
ISOPRENE	100	B	B	B	A	X	U	S	S
ISOPROPYL ALCOHOL	100	A	A	A	A	A	S	S	S
ISOPROPANOLAMINE	100	X	B	B	A	X	S	S	S
ISOPROPYLACETATE	100	I	I	I	A	A	S	S	S
ISOPROPYLAMINE	100	X	B	B	A	X	S	S	S
ISOPROPYL CHLORIDE	100	X	B	B	X	A	U	S	S
ISOPROPYL ETHER	100	X	B	B	X	A	S	S	S
ISOVALERALDEHYDE	100	I	I	I	A	-	S	S	S
JAMS	100	X	A	A	A	X	S	S	S
JET FUEL	100	I	I	I	A	A	S	S	S
KEROSENE	100	B	B	B	A	A	S	S	S
LACTIC ACID	20	X	B	B	A	X	S	S	S
LANOLIN	-	A	A	A	A	-	S	S	S
LARD	-	A	A	A	A	A	S	S	S
LATEX	-	A	A	A	A	A	S	S	S
LEAD SALTS	SATURATED	X	A	B	B	X	U	S	S
LIGROIN		SEE PETROLEUM NAPHTHA							
LIMONENE		SEE DIPENTENE							
LINSEED OIL	100	A	A	A	A	A	S	S	S
LUBRICATING OIL	100	B	B	B	A	A	S	S	S
MAGNESIUM SALTS	SATURATED	X	A	B	B	X	U	S	S
MALEIC ACID	100	X	A	B	B	X	U	S	S
MALIC ACID	100	X	B	B	B	X	U	S	S
MANGANESE SALTS	SATURATED	X	A	B	B	X	U	S	S
MERCURIC CHLORIDE *	SATURATED	X	A	X	X	U	U	U	S
MESITYL OXIDE	100	B	B	B	A	-	S	S	S
METHACRYLIC ACID	SATURATED	X	B	B	A	X	S	S	S
METHANOL	100	A	A	A	A	B	S	S	S
METHYL ACETATE	100	I	I	I	A	A	S	S	S
METHYL ACETO ACETATE	100	X	I	I	B	-	U	S	S

## Composite Hose Chemical Resistance Chart

PRODUCT	Concentration Percentage	HOSE TYPE					COUPLING TYPE		
		1	2	3	4	5	Carbon Steel	Stainless Steel	Polypro
METHYL ACETONE	100	B	B	B	A	A	S	S	S
METHYL ACRYLATE	100	B	B	B	A	-	S	S	S
METHYLAMINE	-	I	B	B	B	X	S	S	S
METHYLAMYL ACETATE	100	I	I	I	A	A	S	S	S
METHYLAMYL ALCOHOL	100	B	B	B	A	A	S	S	S
METHYL AMYLKETONE	100	B	B	B	A	A	S	S	S
METHYL TERT - BUTYL ETHER	-	I	I	I	A	A	S	S	S
METHYL BUTYL KETONE	100	B	B	B	A	A	S	S	S
METHYL BUTYRALDEHYDE	-	X	X	X	A	-	U	S	U
METHYL CELLULOSE	100	B	B	B	A	-	S	S	S
METHYL CELLULOSE ACETATE	100	I	I	I	A	-	S	S	S
METHYL CHLORIDE	100	I	I	I	A	B	S	S	S
METHYL CYANIDE	100	B	B	B	A	-	S	S	S
METHYL CYCLOHEXANE	100	B	B	B	A	A	S	S	S
2-METHYL PENTENE	-	I	I	I	A	A	S	S	S
METHYLENE BROMIDE	100	X	I	I	A	-	S	S	S
METHYL ETHYL KETONE	100	I	I	I	A	A	S	S	S
METHYL ETHYLPRIDINE	-	I	I	I	B	-	S	S	S
METHYL ISOBUTYL KETONE	-	I	I	I	A	A	S	S	S
METHYL METHACRYLATE	100	I	I	I	A	-	S	S	S
METHYLSTYRENE	100	B	B	B	A	A	S	S	S
MINERAL OIL	100	B	B	B	A	A	S	S	S
MINERAL SPIRITS	100	B	B	B	A	-	S	S	S
MOLASSES	-	A	A	A	A	A	S	S	S
MONOETHANOLAMINE	-	B	A	A	A	X	S	S	S
MONOETHYLAMINE	-	I	B	B	A	X	S	S	S
MONOITROBENZENE	-	B	B	B	A	X	S	S	S
MORPHOLINE	100	B	B	B	A	X	S	S	S
NAPHTHA	100	B	B	B	A	A	S	S	S
NAPHTHA SOLVENT	-	I	I	I	A	A	S	S	S
NAPHTHALENE (IN SOLUTION)	100	A	A	A	A	A	S	S	S
NEOHXANE	100	B	B	B	A	A	S	S	S
NICKEL CHLORIDE *	SATURATED	X	A	X	X	X	U	U	S
NICKEL SALTS	SATURATED	X	A	B	B	X	U	S	S
NITRIC ACID	10	X	A	A	A	X	U	S	S
NITRIC ACID	60	X	I	I	B	X	U	S	S
NITRIC ACID	30	X	B	B	B	-	U	S	S
NITRIC ACID	70	X	X	X	I	X	U	S	U
NITROBENZENE	100	B	B	B	A	X	S	S	S
O-NITROPHENOL	100	X	A	A	A	X	S	S	S
NITROPROPANE	100	I	I	I	A	X	S	S	S

## Composite Hose Chemical Resistance Chart

PRODUCT	Concentration Percentage	HOSE TYPE					COUPLING TYPE		
		1	2	3	4	5	Carbon Steel	Stainless Steel	Polypro
NITROLOLUENE	100	B	B	B	A	X	S	S	S
NONANE	100	B	B	B	A	A	S	S	S
NONYL ALCOHOL	100	B	B	B	A	A	S	S	S
NONYLPHENOL	100	I	I	I	A	X	S	S	S
OCTANE	100	B	B	B	A	A	S	S	S
OCTANOL	100	B	B	B	A	A	S	S	S
OCTYLACETATE	100	I	I	I	A	A	S	S	S
OCTYLACRYLATE	100	B	B	B	A	A	S	S	S
OILS	-	B	B	B	A	A	S	S	S
OLEIC ACID	-	X	B	B	A	X	U	S	S
OLEUM	-	X	X	X	B	X	U	S	U
OXALIC ACID	45	X	B	B	A	X	U	S	S
PALM OIL	100	B	B	B	A	A	S	S	S
1,3-/PENTADIENE	-	I	I	I	A	-	S	S	S
PENTANE	100	B	B	B	A	A	S	S	S
PENTANOL	100	A	A	A	A	-	S	S	S
PENTANONE	100	B	B	B	A	-	S	S	S
PENTENE	100	B	B	B	A	A	S	S	S
PERCHLORIC ACID *	50	X	B	X	X	-	U	U	S
PETROLATUM	100	A	A	A	A	A	S	S	S
PETROLEUM	100	A	A	A	A	A	S	S	S
PETROLEUM NAPHTHA	100	I	I	I	A	A	S	S	S
PHENOL	100	I	A	B	A	-	S	S	S
PHENOXYETHANOL	-	I	I	I	B	-	S	S	S
PHENYLHYDRAZINE	100	X	I	I	B	X	U	S	S
PHOSPHORIC ACID	25	X	A	A	A	-	U	U	S
PHOSPHORIC ACID	96	X	A	A	A	X	U	U	S
PHOSPHORUS OXYCHLORIDE *	-	I	X	X	X	X	U	U	U
PHOSPHORUS PENTOXIDE	-	X	A	B	B	X	U	S	S
PHOSPHORUS TRICHLORIDE *	100	X	B	X	X	X	U	U	S
PHOSPHORUS	-	X	X	X	X	X	U	U	U
PHTHALIC ACID	50	X	B	B	A	X	U	S	S
PICRIC ACID AQUEOUS	1	X	B	B	B	X	U	S	S
PINENE	-	B	B	B	A	-	S	S	S
PINE OIL	100	B	B	B	A	-	S	S	S
PLASTICISERS	100	B	B	B	A	-	S	S	S
POLYETHYLENE GLYCOL	100	B	B	B	A	-	S	S	S
POLYETHYLENE POLYAMINES	-	X	I	I	B	X	S	S	S
POLYPROYLENE GLYCOL	100	B	B	B	A	-	S	S	S
POLYMETHYLENE POLYPHENYL ISOCYANATE	-	B	B	B	A	-	S	S	S
POTASSIUM SALTS	SATURATED	X	A	B	B	X	U	S	S

## Composite Hose Chemical Resistance Chart

PRODUCT	Concentration Percentage	HOSE TYPE					COUPLING TYPE		
		1	2	3	4	5	Carbon Steel	Stainless Steel	Polypro
PROPYL ALCOHOL	100	A	A	A	A	A	S	S	S
PROPANOIC ACID	-	X	B	B	A	X	S	S	S
PROPIOLACTONE		I	I	I	A	-	S	S	S
PROPIONALDEHYDE	100	X	I	I	A	X	S	S	S
PROPIONIC ACID	100	X	B	B	A	X	U	S	S
PROPIONIC ANHYDRIDE	-	X	I	I	B	X	U	S	S
PROPYLACETATE	100	I	I	I	A	A	S	S	S
PROPYLAMINE	-	X	B	B	A	X	S	S	S
PROPYLENE GLYCOL MONOMETHYL ETHER	-	B	B	B	A	B	S	S	S
PROPYLENE GLYCOL MONOETHYL ETHER		B	B	B	A	B	S	S	S
PROPYLENE OXIDE	100	X	B	B	B	X	S	S	S
PROPYLENE (TETRAMER & TRIMER)	-	I	I	I	B	A	U	S	S
PRUSSIC ACID	-	X	A	B	A	X	U	S	S
PYRIDENE	100	X	B	B	A	X	S	S	S
SALT SOLUTIONS	-	X	B	B	A	X	S	S	S
SEA WATER	-	X	A	B	B	X	U	S	S
SEWAGE	-	B	B	B	B	X	S	S	S
SILICON OIL	-	A	A	A	A	A	S	S	S
SILVER SALTS	SATURATED	X	A	B	B	X	S	S	S
SILVER HALIDES *	SATURATED	X	A	X	X	X	U	U	S
SOAP SOLUTIONS	-	B	A	A	A	X	S	S	S
SODIUM SALTS	SATURATED	X	A	A	A	X	S	S	S
SODIUM CHLORIDE *	SATURATED	X	A	I	B	X	U	U	S
SODIUM HYDROSULPHIDE	-	X	A	B	B	X	S	S	S
SODIUM HYPOCHLORITE *	20	X	I	I	I	X	U	U	S
SODIUM HYDROXIDE	-	X	A	A	A	X	S	S	S
SODIUM THIOSULPHATE	20	X	A	B	B	X	U	S	S
STARCH AQUEOUS	-	B	A	A	A	-	S	S	S
STYRENE MONOMER	100	B	B	B	A	A	S	S	S
SUGAR SYRUP	-	A	A	A	A	X	S	S	S
SULPHAMIC ACID	-	X	A	X	A	X	U	S	S
				HOSE TYPE					
				SS ONLY					
SULPHUR LIQUID	-								
SULPHURIC ACID	UP TO 20	X	B	B	B	X	S	S	S
SULPHURIC ACID *	20 - 85	X	I	I	I	X	U	U	U
SULPHURIC ACID	OVER 85	X	I	B	B	X	S	S	S
SULPHUROUS ACID	-	X	B	I	B	X	S	S	S
SULPHURYL CHLORIDE	-	X	X	X	X	X	U	U	U
TALL OIL	100	A	A	A	A	A	S	S	S
TALLOW	100	A	A	A	A	A	S	S	S
TANNIC ACID AQUEOUS	10	X	A	A	A	X	U	S	S

## Composite Hose Chemical Resistance Chart

PRODUCT	Concentration Percentage	HOSE TYPE					COUPLING TYPE		
		1	2	3	4	5	Carbon Steel	Stainless Steel	Polypro
TARTARIC ACID	-	X	A	A	A	X	U	S	S
TETRACHLOROETHANE	-	I	I	I	A	B	S	S	S
TETRACHLOROETHYLENE	-	I	I	I	A	B	S	S	S
TETRAETHYLENE GLYCOL	100	B	B	B	A	-	S	S	S
TETRAETHYLENE PENTAMINE	-	X	B	B	B	X	S	S	S
TETRAHYDROFURAN	-	X	X	X	A	B	S	S	U
TETRAHYDRONAPHTHALENE	-	I	I	I	A	-	S	S	S
TIN SALTS (NOT HALIDES)	SATURATED	X	A	B	B	X	S	S	S
TIN HALIDES *	-	X	A	X	X	X	U	U	S
TITANIUM TETRACHLORIDE *	-	X	I	X	X	X	U	U	U
TOLUENE	100	I	I	I	A	A	S	S	S
TOLUENE DIISOCYANATE	100	B	B	B	A	-	S	S	S
TRANSFORMER OIL	100	B	B	B	A	-	S	S	S
TRANSMISSION OIL	100	B	B	B	A	A	S	S	S
TRIBUTYLAMINE	100	B	B	B	A	X	S	S	S
TRIBUTYL PHOSPHATE	100	B	B	B	A	-	S	S	S
TRICHOACETIC ACID *	10	X	A	X	X	X	U	U	S
TRICHLOROETHANE	100	I	I	I	A	A	S	S	S
TRICHLOROETHYLENE	100	I	I	I	A	A	S	S	S
TRICHLOROPROPANE	100	I	I	I	A	A	S	S	S
TRICRESYLPHOSPHATE	100	B	B	B	A	-	S	S	S
TRIDECANOL	100	B	B	B	A	-	S	S	S
TRIETHANOLAMINE	100	X	B	B	A	X	S	S	S
TRIETHYLAMINE	100	X	B	B	B	X	S	S	S
TRIETHYLBENZENE	100	B	B	B	A	A	S	S	S
TRIETHYLENE GLYCOL	100	A	A	A	A	-	S	S	S
TRIETHYLENE TETRAMINE	100	X	B	B	A	X	S	S	S
TRIMETHYLBENZENE	100	B	B	B	A	A	S	S	S
TRIOCTYL PHOSPHATE	100	B	B	B	A	-	S	S	S
TRIPOLYENE GLYCOL	100	A	A	A	A	-	S	S	S
TRIPOLYENE GLYCOL MONOMETHYL ETHER	-	I	I	I	A	-	S	S	S
TRITOLYL PHOSPHATE	100	B	B	B	A	-	S	S	S
TRIXYLENYL PHOSPHATE	100	B	B	I	A	-	S	S	S
TURPENTINE	100	I	I	A	A	X	S	S	S
UREA AQUEOUS SATURATED	-	B	A	A	A	A	S	S	S
UREA/AMMONIA SALT SOLUTION	-	B	A	A	A	X	S	S	S
UREA/AMMONIA SOLUTION	-	B	A	A	A	X	S	S	S
VALERALDEHYDE	-	I	I	I	A	X	S	S	S
VEGETABLE OILS	100	A	A	A	A	A	S	S	S
VINEGAR	-	X	A	A	A	X	U	S	S

## Composite Hose Chemical Resistance Chart

PRODUCT	Concentration	HOSE TYPE					COUPLING TYPE		
	Percentage	1	2	3	4	5	Carbon Steel	Stainless Steel	Polypro
VINYL ACETATE	-	X	A	A	A	A	U	S	S
VINYL ETHYL ETHER	-	I	I	I	A	A	S	S	S
VINYLDENE CHLORIDE	-	I	I	I	A	-	S	S	S
VINYL TOLUENE	-	B	B	B	A	A	S	S	S
VINYL NEODECANOATE	-	I	I	I	A	-	S	S	S
WATER	-	A	A	A	A	A	S	S	S
WHITE SPIRIT	100	B	B	B	A	A	S	S	S
WINE	-	X	B	B	A	X	U	S	S
XYLENE	100	B	B	B	A	A	S	S	S
XYLENOL	100	B	B	B	A	A	S	S	S
YEAST AQUEOUS	-	X	A	A	A	X	U	S	S
ZINC SALTS AQUEOUS (NOT HALIDES)	-	X	A	A	B	X	S	S	S
ZINC HALIDES AQUEOUS *	-	X	A	X	X	X	U	U	S