

# Chemical Resistance Guidelines



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**This publication is intended as a general guide for pump material selection. It includes the most common liquids used in chemical, paint, industrial and food-processing applications.**

**The chemical resistance information in this document has been compiled using many sources, all believed to be reliable.**

**However, the information cannot be guaranteed.**

<b>Material</b>	<b>Operating Temperatures</b>	<b>Industry Approvals</b>
EPDM	0 to 180 °F	
Hypalon	0 to 180 °F	
Neoprene	50 to 130 °F	
Silicone	0 to 180 °F	
Varprene	0 to 160 °F	Meets FDA Criteria
Natural Rubber	0 to 160 °F	
Nitrile Rubber	0 to 180 °F	
Pharmed®	0 to 180 °F	Meets USP Class VI, FDA, and NSF Criteria

® Pharmed Reg. Saint-Gobain Performance Plastics



Hose Chemical Resistance	Perbunan-							
	EPDM	Natural Rubber	Nitrile Rubber	Neoprene	Hypalon	Varprene	Silicone	PharMed®
Acetal	C	C	C	C	C	A	A	A
Acetic Acid 10%	A	A	C	C	A	A	B	A
Acetic Acid 20%	A	B	C	C	A	A	B	A
Acetic Acid 30%	A	B	C	C	B	A	B	A
Acetic Acid 50%	A	B	C	C	C	A	B	A
Acetic Acid Anhydride	B	C	C	A	A	A	C	A
Acetic Acid (Ice-Cold)	B	B	C	C	C	B	B	B
Acetone	A	A	C	C	B	B	B	B
Acetonitrile	C	C	C	C	S	S	S	S
Acetylene	C	C	B	B	B	B	B	B
Acrylonitrile	C	C	C	C	C	S	C	S
Air	A	A	A	A	A	A	A	A
Alcohol	A	A	A	A	B	B	B	B
Aluminum Chloride	A	A	A	A	B	A	B	A
Aluminum Fluoride	A	A	A	A	A	B	B	B
Aluminum Hydroxide	A	A	A	A	A	B	B	B
Aluminum Silicate	A	A	A	A	A	A	A	A
Aluminum Sulfate	A	A	A	A	A	A	A	A
Ammonia Anhydrous	S	A	B	C	C	A	C	A
Ammonia (Liquid)	S	A	A	A	C	B	C	B
Ammonia (Gas)	A	A	A	A	S	A	C	A
Ammonium Bicarbonate	A	A	A	A	S	S	S	S
Ammonium Bisulfate 50%	A	A	C	A	S	S	S	S
Ammonium Bromide	A	B	C					
Ammonium Carbonate	A	A	A	A	S	S	S	S
Ammonium Chloride	A	A	A	A	A	A	A	A
Ammonium Hydroxide	A	A	A	A	A	A	A	A
Ammonium Nitrate	A	A	A	B	A	B	S	S
Ammonium Persulfate	A	B	B	B	A	S	S	S
Ammonium Phosphate	A	A	A	A	A	A	A	A
Ammonium Sulfate	A	A	A	A	A	S	A	S
Amyl Acetate	B	B	B	C	C	S	C	S
Amyl Alcohol	A	A	B	A	A	B	C	B
Amyl Amine	C	C	C	C	S	S	C	S
Amyl Borate	B	B	C	B	S	S	S	S
Amyl Chloride	C	C	C	C	C	C	C	C
Amyl Chloronaphthalene	C	C	C	C	C	C	C	C
Amylene	C	C	C	C	C	S	C	S
Aniline Paint	C	B	C	B	C	B	C	B
Aniline (Oil)	C	C	C	B	C	B	C	B
Animal Fat	C	C	B	B	S	B	B	B
Animal Glue	A	A	A	A	S	A	A	A

**Legend:****A** Little or No Action**B** Moderate Action**C** Strong Action**S** Unknown

Hose Chemical Resistance	EPDM	Natural Rubber	Perbunan-Nitrile Rubber	Neoprene	Hypalon	Varprene	Silicone	PharMed®
Antifreeze	A	A	A	B	A	S	S	S
Antimony Chloride 50%	A	B	C	C	S	S	S	S
Aqua Regia	B	C	C	C	C	B	C	B
Arsenic Acid	B	C	C	C	A	A	A	A
Ascorbic Acid	A	A	A	B	S	B	B	B
Asphalt	C	C	B	C	C	C	C	C
Barium Carbonate	A	A	A	A	B	S	S	S
Barium Chloride	A	A	A	A	A	A	A	A
Barium Ferrite	A	A	A	A	A	A	A	A
Barium Hydroxide	A	A	A	A	A	A	A	A
Barium Sulfate	A	A	A	A	A	A	A	A
Barium Sulfide	A	A	A	A	A	A	A	A
Beer	A	A	B	A	A	A	A	A
Beetroot Syrup	A	A	A	A	A	A	A	A
Benzaldehyde	B	C	C	C	C	A		A
Benzene	C	C	C	C	C	C	C	C
Benzene Sulphonic Acid	C	C	C	A	S	C	C	C
Benzoyl Chloride	C	C	C	C	C	C	C	C
Benzyl Alcohol	C	C	C	C	C	C	C	C
Bird Lime (Glue)	A	A	A	A	A	A	A	A
Bismuth Carbonate	A	A	A	A	S	S	S	S
Boric Acid	A	A	A	C	B	B	B	B
Borax	A	A	A	B	A	B	B	B
Bromine	C	C	C	C	C	A	C	A
Butadiene	C	C	B	B	B	B	C	B
Butane	C	C	A	A	B	B	C	B
Butane Fluid	C	C	B	C	B	B	C	B
Butter	C	B	A	B	B	B	B	B
Butyl Acetate	B	C	C	C	C	S	C	S
Butyl Alcohol	C	B	B	A	B	B	B	B
Butyl Aldehyde	C	C	C	C	S	S	C	S
Butyl Cellosolve	C	C	C	C	S	S	C	S
Butyl Cellosolve Adipate	C	C	C	C	S	S	C	S
Butyl Ether	C	C	C	C	S	S	C	S
Calcium Acetate	A	A	B	A	S	S	S	S
Calcium Bisulfate	A	A	A	A	S	S	S	S
Calcium Carbonate	A	A	A	A	A	A	A	A
Calcium Chlorate	A	A	B	A	S	S	S	S
Calcium Chloride	A	A	A	A	A	A	A	A
Calcium Hydroxide	A	A	A	A	A	A	A	A

**Legend:****A** Little or No Action**B** Moderate Action**C** Strong Action**S** Unknown

Hose Chemical Resistance	Perbunan-							
	EPDM	Natural Rubber	Nitrile Rubber	Neoprene	Hypalon	Varprene	Silicone	PharMed®
Calcium Hypochloride	A	B	B	C	A	A	A	A
Calcium Hypochloride 30%	A	B	B	C	A	A	A	A
Calcium Nitrate	A	A	A	A	A	S	A	S
Calcium Sulfate	A	A	A	A	S	S	S	S
Calcium Sulfide	A	A	A	A	S	S	S	S
Calcium Tetra Fluoride	B	C	C	C	S	S	S	S
Calic Liquor	A	A	A	A	B	A	A	A
Cane Sugar Liquor	A	A	A	A	A	A	A	A
Carbitol	C	C	C	B	B	S	B	S
Carbolic Acid, Phenol	C	C	C	C	C	S	C	S
Carbon Dioxide (Dry)	A	A	A	B	B	A	B	A
Carbon Dioxide (Wet)	A	A	A	B	B	A	B	A
Carbon Disulfide	C	C	A	C	C	C	C	C
Carbon Monoxide (65°C)	A	A	B	A	A	A	A	A
Carbonic Acid	A	A	A	A	A	A	A	A
Castor Oil	C	C	B	B	S	B	B	B
Caustic Soda (max 50%)	A	A	B	B	S	B	B	B
Cellosolve	C	C	C	C	S	B	S	B
Chloric Acid	A	C	C	C	C	C	C	C
Chloric Acid Sulfurous	B	C	C	C	C	C	C	C
Chlorinated Solvents	C	C	C	C	C	C	C	C
Chlorine Aceton Nitrile	C	C	C	C	C	C	C	C
Chlorine Acetone	B	C	B	C	C	C	C	C
Chlorine Water 3%	A	C	C	C	C	A	C	A
Chlorine (Dry)	B	C	C	C	C	A	C	A
Chlorine (Solvent)	S	C	C	C	C	C	C	C
Chlorine (Wet)	A	C	C	C	C	A	C	A
Chloroform	C	C	C	C	C	C	C	C
Chromic Acid 10%	S	C	C	C	B	C	C	C
Chromic Acid 25%	S	C	C	C	B	B	C	B
Chromic Acid 50%	S	C	C	C	B	B	C	B
Citric Acid	A	A	B	A	A	A	A	A
Citrus Pulp	A	A	B	A	A	A	A	A
Coconut Oil	C	C	B	B	B	A	A	A
Cod Liver Oil	C	C	B	B	B	A	A	A
Copper Arsenate	A	B	B	B	S	S	S	S
Copper Chloride	A	A	A	B	A	S	A	S
Copper Cyanide	A	B	A	B	A	S	A	S
Copper Nitrate	A	A	B	B	S	S	A	S
Copper Sulfate	A	A	B	A	A	S	A	S
Cottonseed Oil	C	C	B	S	S	S	S	S
Creosote Oil	C	C	C	C	S	S	S	S

**Legend:****A** Little or No Action**B** Moderate Action**C** Strong Action**S** Unknown

Hose Chemical Resistance	Perbunan-							
	EPDM	Natural Rubber	Nitrile Rubber	Neoprene	Hypalon	Varprene	Silicone	PharMed®
Copper Salts	S	A	A	A	S	A	A	A
Cresol 90%, Xylol 5%, DDT 5%	C	C	C	C	C	C	C	C
Cresol 95%, Xylol 5%	C	C	C	C	C	C	C	C
Cresylic Acid	C	C	C	C	C	C	C	C
Crude Oil	C	C	B	C	C	S	S	S
Cryolite 10%	B	B	B	C	S	S	S	S
Cyanide	A	A	A	A	B	S	S	S
Cyclohexane	C	C	B	C	C	C	C	C
Cyclohexanol	C	B	C	C	C	C	C	C
Cyclohexanone	C	B	C	C	C	C	C	C
Cyclopentane	C	C	C	C	C	C	C	C
Cymene	C	C	C	C	C	C	C	C
Decalin	C	C	C	C	C	C	C	C
Decane	C	C	C	C	C	C	C	C
Diesel Oil	C	C	C	C	C	C	C	C
Dioxane	C	C	C	C	C	C	B	C
Divinyl Benzene	C	C	C	C	C	C	C	C
Diacetone Alcohol	C	C	C	C	A	C	C	C
Diamyl Naphthene	C	C	C	C	C	C	C	C
Dibenzyl Ether	C	C	C	C	C	C	C	C
Dibutyl Acetate	C	S	C	C	C	C	C	C
Dibutyl Amine	C	C	C	C	C	C	C	C
Dibutyl Ether	C	C	C	C	C	C	C	C
Dibutyl Sebacate	C	C	C	C	C	C	C	C
Dicyclohexylamine	S	C	C	C	C	C	C	C
Diethyl Amine	C	S	C	C	C	C	B	C
Diethyl Carbonate	C	C	C	C	C	C	C	C
Diethyl Ether (Ether)	C	C	C	C	C	C	C	C
Diethyl Fatty Acid	C	S	C	C	C	C	C	C
Diethyl Glycol	A	A	A	A	A	S	B	S
Diethyl Ketone	B	B	C	C	C	C	C	C
Diethyl Okalate	C	C	C	C	C	C	C	C
Diisobutene	C	C	S	C	C	C	C	C
Diisobutyl Ketone	C	B	C	C	C	C	C	C
Diisopropyl Ether	C	C	C	C	C	C	C	C
Diisopropyl Ketone	C	S	C	C	C	C	C	C
Dimethyl Ether	C	C	C	C	C	C	C	C
Dimethyl Formamide	A	A	B	C	C	C	C	C
Dimethyl Sulfide	C	C	C	C	C	C	C	C
Dioctyl Adipate	C	C	C	C	C	C	C	C
Dioctyl Sebacate	C	C	C	C	C	C	C	C

**Legend:****A** Little or No Action**B** Moderate Action**C** Strong Action**S** Unknown

Hose Chemical Resistance	EPDM	Natural Rubber	Perbunan-Nitrile Rubber	Neoprene	Hypalon	Varprene	Silicone	PharMed®
Ethanolamine	C	C	C	B	C	S	B	S
Ether	C	C	C	C	C	C	C	C
Ethylene Oxyde	C	C	C	C	C	B	C	B
Ethyl Acetate	B	B	C	C	C	B	B	B
Ethyl Alcohol	A	A	A	A	A	A	A	A
Ethyl Amine	C	S	C	S	S	S	S	S
Ethyl Benzene	C	C	C	C	C	C	C	C
Ethyl Benzoate	C	C	C	C	C	C	C	C
Ethyl Bromide	C	C	C	C	C	C	C	C
Ethyl Butyrate	C	C	C	C	C	C	C	C
Ethyl Cellulose	A	A	B	B	C	C	C	C
Ethyl Chloride	C	C	C	B	C	C	C	C
Ethyl Cyano Acetate	S	S	C	C	C	C	C	C
Ethyl Ether	C	C	C	C	C	C	C	C
Ethyl Formate	B	C	C	C	C	C	C	C
Ethyl Hexanol	C	S	C	C	C	C	C	C
Ethyl Hexyl Di Phenyl Phosphate	C	C	C	C	C	C	C	C
Ethyl Iodide	C	C	C	C	C	C	C	C
Ethyl Isobutyl Ether	C	C	C	C	C	C	C	C
Ethyl Isobutyrate	C	C	C	C	C	C	C	C
Ethyl Mercaptan	C	C	C	C	C	C	C	C
Ethyl Methyl Ketone	B	B	C	S	S	S	S	S
Ethyl Oxalate	C	S	C	C	C	C	C	C
Ethyl Penta Chlor Benzene	C	C	C	C	C	C	C	C
Ethyl Proponate	C	C	C	C	C	C	C	C
Ethyl Propyl Ether	C	C	C	C	C	C	C	C
Ethyl Silicate	A	A	A	A	S	S	S	S
Ferric Chloride (65°C)	A	A	A	S	S	S	S	S
Ferric Oxide	A	A	A	B	S	S	S	S
Fluoboric Acid	S	B	B	B	B	A	S	A
Formaldehyde 37%	A	A	B	A	B	A	B	A
Formaldehyde 40% (70°C)	A	C	C	B	S	B	S	B
Formamide (Formylanine)	A	A	B	B	S	A	S	A
Formic Acid	B	B	C	B	A	A	B	A
Freon 11	C	C	C	B	A	C	C	C
Freon 114	C	C	C	B	A	C	C	C
Freon 115	C	C	C	B	A	C	C	C
Freon 12 (Liquid)	C	C	C	B	A	C	C	C
Freon 13	C	C	C	B	S	C	C	C
Freon 14	C	C	C	B	S	C	C	C
Freon 21	C	C	C	B	A	C	C	C

**Legend:****A** Little or No Action**B** Moderate Action**C** Strong Action**S** Unknown

Hose Chemical Resistance	EPDM	Natural Rubber	Perbunan-Nitrile Rubber	Neoprene	Hypalon	Varprene	Silicone	PharMed®
Freon 22	C	C	C	B	A	C	C	C
Freon 31	C	C	C	B	S	C	C	C
Freon C 316	C	C	C	B	S	C	C	C
Freon C 318	C	C	C	B	S	C	C	C
Fuel Oil	C	C	B	C	C	C	C	C
Fuming Sulphuric Acid (Oleum)	B	C	C	C	C	C	C	C
Furan	C	C	C	C	C	C	C	C
Furfural	C	C	C	B	C	B		B
Gasoline 2%	C	B	C	B	B	B	C	B
Gelatin (Glue)	A	A	A	A	A	A	A	A
Glucose	A	A	A	A	A	A	A	A
Glue	A	B	A	A	A	A	A	A
Glycerine	A	A	A	A	A	A	A	A
Glycerol	B	A	A	A	A	A	A	A
Glycol	A	A	A	A	A	A	A	A
Green Sulfate Liquor	A	A	B	B	S	C	A	C
Heptane	C	C	C	B	A	S	C	S
Hexaldehyde	A	A	B	B	S	S	A	S
Hexane	C	C	C	B	B	S	C	S
Hydraulic Oil	C	B	C	B	B	B	C	B
Hydro Cyanic Acid	S	B	C	B	S	B	C	B
Hydrobromic Acid	A	B	B	B	A	A	C	A
Hydrobromic Acid 40%	B	C	C	B	A	S	C	S
Hydrochloric Acid 15%	A	A	A	B	A	A	C	A
Hydrochloric Acid 30%	A	A	B	S	B	A	C	A
Hydrochloric Acid (65°C)	A	C	C	S	S	A	C	A
Hydrochloric Acid 33% (50°C)	B	C	C	C	S	A	C	A
Hydrochloric Acid Conc 38%	A	B	C	C	S	A	C	A
Hydrocyanic Acid	A	A	B	B	C	A	C	A
Hydrofluorine Acid (Cold)	C	B	C	S	B	S	S	S
Hydrofluorine Acid (Hot)	B	B	C	S	S	S	S	S
Hydrofluosilicic Acid	A	A	B	B	A	S	C	S
Hydrogen Gas (65°C)	A	A	A	A	A	A	C	A
Hydrogen Gas Cold	A	A	A	A	A	A	C	A
Hydrogen Peroxide 10%	A	C	C	C	S	A	B	A
Hydrogen Peroxide 30%	C	C	C	C	S	A	B	A
Hydrogen Peroxide 88%	C	C	C	C	S	A	B	A
Hydrogen Sulfide	A	A	B	A	A	A	C	A
Hydrogen Sulfide (Dry Cold)	A	A	S	A	A	A	C	A
Hydrogen Sulfide (Dry Warm)	A	A	B	A	A	A	C	A

**Legend:**

**A** Little or No Action  
**C** Strong Action

**B** Moderate Action  
**S** Unknown



Hose Chemical Resistance	EPDM	Natural Rubber	Perbunan-Nitrile Rubber	Neoprene	Hypalon	Varprene	Silicone	PharMed®
Hydrogen Sulfide (Wet Cold)	A	A	C	A	B	A	C	A
Hydrogen Sulfide (Wet Warm)	A	A	A	A	B	A	C	A
Hydrogen Sulfide (Dry)	A	A	B	A	B	A	C	A
Hydrogen Sulfide (Moist)	A	B	B	B	B	A	C	A
Ink-Oil	C	C	B	B	S	B	C	S
Iodine	B	C	C	C	B	A	S	A
Iron Acetat Solution	A	A	A	B	S	S	S	S
Iron Chloride	A	A	A	B	S	S	S	
Iron & Zinc Phosphate Solution	A	A	A	B	S	S	S	S
Iron Nitrate (65°C)	A	A	A	B	S	S	S	S
Iron Sulfate	A	A	A	B	S	S	S	S
Isoamyl Acetate	C	C	C	C	S	S	S	S
Isoamyl Alcohol	C	C	C	C	S	S	S	S
Isoamyl Formate	C	C	C	C	S	S	S	S
Isobutene	C	C	C	C	S	S	S	S
Isobutyl Acetate	C	C	C	C	S	S	S	S
Isobutyl Alcohol	C	B	C	C	S	A	B	A
Isobutyl Aldehyde	C	C	C	C	S	S	S	S
Isobutyl Formate	C	C	C	C	S	S	S	S
Isocyanate	C	C	C	C	S	S	S	S
Isopropyl Acetate	B	B	C	C	C	S	C	S
Isopropyl Alcohol	A	A	B	B	B	B	B	B
Isopropyl Chloride	C	C	C	C	S	B	S	B
Isopropyl Ether	C	C	C	C	C	S	C	S
Isodecane	C	C	C	C	C	C	C	C
Isododecane	C	C	C	C	C	C	C	C
Isooctane	C	C	B	C	C	C	C	C
Jet Fuels (JP1 TIL JP5)	C	C	B	C	C	C	C	C
Kerosene	C	C	B	C	C	C	C	C
Lacquers	C	C	S	C	C	C	C	C
Lacquer-Solvents	C	C	S	C	C	C	C	C
Lactic Acid	B	B	S	B	B	A	B	A
Lactol	C	C	B	C	C	C	C	C
Lard	C	C	B	C	C	B	B	B
Latex	S	A	A	B	B	B	B	B
Lead Acetate	A	A	A	B	B	A	C	A
Lead Arsenate	A	A	B	B	B	B	B	B
Lead Nitrate	A	A	A	B	B	A	B	A

**Legend:****A** Little or No Action**B** Moderate Action**C** Strong Action**S** Unknown

Hose Chemical Resistance	EPDM	Natural Rubber	Perbunan-Nitrile Rubber	Neoprene	Hypalon	Varprene	Silicone	PharMed®
Lead Sulphamate	A	A	A	B	B	B	B	B
Lime Sulfur	A	A	A	B	B	A	B	A
Lime Water	A	A	A	A	B	A	B	A
Linseed Oil	C	C	C	B	B	A	B	A
Liquid Manure	A	A	A	B	S	S	S	S
Lithium-Hydroxide	A	A	A	B	S	S	S	S
Lubricating Oil	C	C	B	B	C	B	S	B
Lye (Caustic)	A	A	A	A	A	A	A	A
Magnesium Carbonate	A	A	A	S	S	S	S	S
Magnesium Chloride	A	A	A	A	A	A	A	A
Magnesium Hydroxide	A	A	A	A	A	A	S	A
Magnesium Nitrate	A	A	A	A	S	S	S	S
Magnesium Sulfate	A	A	A	A	A	A	A	A
Manganese Sulfate	A	A	A	S	S	S	S	S
Margarine Oil	C	C	A	S	S	S	S	S
Mercury	A	A	A	A	A	A	A	A
Mercury Chloride	A	A	B	A	A	A	S	A
Mercury Cyanide	A	A	B	A	S	S	S	S
Methanol (Methylalcohol)	A	A	A	A	A	A	A	A
Methylene Chloride	C	C	C	C	S	C	C	C
Methyl Acetate	B	C	C	B	C	S	C	S
Methyl Acetone	C	B	B	C	S	S	S	S
Methyl Acetoacetate	C	C	C	S	S	S	S	S
Methyl Amine	C	C	C	S	S	S	S	S
Methylamyl Acetate	C	C	C	S	S	S	S	S
Methylamyl Carbinol	C	C	C	S	S	S	S	S
Methyl Aniline	C	C	C	S	S	S	S	S
Methyl Bromide	C	C	C	C	C	S	S	S
Methyl Butyl Ketone	C	B	B	C	C	S	C	S
Methyl Butyrate	C	C	C	C	C	C	C	C
Methyl Cellosolve	C	C	C	C	C	C	C	C
Methyl Chloride	C	C	C	C	C	C	C	C
Methyl Ethyl Ketone	C	C	C	C	C	B	C	B
Methyl Formate	C	C	C	C	C	C	C	C
Methyl Iodide	C	C	C	C	C	C	C	C
Methyl Isobutyl Carbinol	C	C	C	C	C	C	C	C
Methyl Isobutyl Ketone	C	B	B	C	C	C	C	C
Methyl Isobutyrate	C	C	C	C	C	C	C	C
Methyl Isopropyl Ketone	C	C	C	C	C	C	C	C
Methyl Methacrylate	C	C	C	C	C	C	C	C
Methyl Oleate	C	C	C	C	C	C	C	C

**Legend:****A** Little or No Action**B** Moderate Action**C** Strong Action**S** Unknown

Hose Chemical Resistance	EPDM	Natural Rubber	Perbunan-Nitrile Rubber	Neoprene	Hypalon	Varprene	Silicone	PharMed®
Methyl Propionate	C	C	C	C	C	C	C	C
Methyl Salicylate	C	C	C	C	C	C	C	C
Milk	B	B	A	B	S	A	A	A
Mineral Oil	C	C	A	B	S	A	B	A
Molasses	A	A	A	B	S	A	S	A
Mono Sodium Glutamate	C	C	A	C	C	C	C	C
Mono chlo-benzene	C	C	C	C	C	C	C	C
Monochloroanline	C	C	C	C	C	C	C	C
Monochloro Difluoro Methane	C	C	C	C	C	C	C	C
Monochloro Trifluoro Methane	C	C	C	C	C	C	C	C
Mono Ethanol Amine	C	C	C	C	C	C	C	C
Motor Oil	C	C	B	C	C	A	C	A
Naphtha	C	C	S	C	C	C	C	C
Naphthalene	C	C	C	C	C	C	C	C
Naphthene	C	C	C	C	C	C	C	C
Natural Gas	B	B	A	B	B	A	B	A
Natural Gas (Dry)	B	B	A	B	B	A	B	A
Natural Gas (Wet)	B	B	A	B	B	A	B	A
Nickel Chloride	A	A	A	A	A	A	A	A
Nickel Nitrate	A	A	A	A	S	S	S	S
Nickel Sulfate	A	A	A	A	A	S	A	S
Nicotine Bentonite	C	C	B	S	S	S	S	S
Nicotine Sulfate	A	A	A	A	B	S	S	S
Nitric Acid 2%	S	C	C	C	B	A	C	A
Nitric Acid 10%	A	C	C	C	B	A	C	A
Nitric Acid 25%	B	C	C	C	C	B	C	B
Nitric Acid 40%	B	C	C	C	C	B	C	B
Nitric Acid 60%	C	C	C	C	C	C	C	C
Nitric Acid 70%	C	C	C	C	C	C	C	C
Nitric Acid (Fuming)	C	C	C	C	C	C	C	C
Nitro Benzene	C	C	C	C	C	C	C	C
Nitroglycerine	C	C	C	C	C	C	C	C
Nitrosylchloride	C	C	C	C	C	C	C	C
Nitrous Acid	A	C	C	C	C	A	C	A
Nitro Ethane	C	C	C	C	S	A	C	A
Nitro Methane	C	C	C	C	S	S	C	C
Nitro Octane	C	C	C	C	S	C	C	C
Nitro Propene	C	C	C	C	S	S	C	S
Octane	C	C	B	C	S	S	S	S
Octyl Alcohol	A	A	A	B	S	S	S	S

**Legend:****A** Little or No Action**B** Moderate Action**C** Strong Action**S** Unknown

Hose Chemical Resistance	Perbunan-							
	EPDM	Natural Rubber	Nitrile Rubber	Neoprene	Hypalon	Varprene	Silicone	PharMed®
Octyl Aldehyde	C	C	C	C	S	S	S	S S
Oleic Acid	C	C	C	C	C	C	B	C B
Olenic Acid	C	C	C	B	C	C	S	S S
Olive Oil	C	C	C	B	C	C	A	B A
Oxalic Acid	A	A	A	B	B	B	A	A A
Oxygen	A	A	B	B	B	B	A	B A
Ozone	A	A	C	C	C	A	A	B A
Palmitic Acid	C	C	B	C	S	A	S	A
Palm Oil	C	C	B	C	C	B	C	B
Paraformaldehyde	C	C	B	S	S	S	S	S
Pentane	C	C	B	B	B	S	C	S
Perchlorine Acid	S	C	C	C	C	C	C	C
Perchlorine Ethene	S	C	C	C	C	C	C	C
Petroleum Till (90°C)	S	C	C	C	C	C	C	C
Phenol	C	C	C	C	C	C	C	C
Phenyl Ethyl Ether	C	C	C	C	C	C	C	C
Phosphoric Acid 50%	A	A	B	B	B	A	B	A
Phosphoric Acid 85%	A	A	B	C	C	A	C	A
Phosphor Tributurate	C	S	C	C	C	S	S	S
Pickling Solution (20% Ant Acid 4% HF)	B	C	C	C	C	C	C	C
Picric Acid	A	B	C	B	B	A	C	A
Pine Oil	C	C	B	C	C	C	C	C
Pinetree Oil	C	C	B	C	C	C	C	C
Polyacrylic Acid	C	C	C	C	C	C	C	C
Potassium Bichromate	A	B	B	B	S	S	S	S
Potassium Borate	A	A	A	B	B	S	B	S
Potassium Bromide	A	A	A	B	B	A	B	A
Potassium Carbonate	A	A	A	B	B	B	B	B
Potassium Chlorate	A	B	B	B	B	B	B	B
Potassium Chloride	A	A	A	A	A	A	A	A
Potassium Cyanide	A	A	A	B	B	A	B	A
Potassium Dichromate	A	B	B	B	B	A	A	A
Potassium Hydroxide	A	A	A	B	B	B	B	B
Potassium Nitrate	A	A	A	A	A	S	A	S
Potassium Permanganate	A	A	A	B	B	S	S	S
Potassium Sulfate	A	A	A	B	B	A	B	A
Potassium Sulfite	A	A	A	B	B	A	B	A
Producer Gas	B	B	A	B	B	S	S	S
Propane (Gas)	C	C	B	S	S	S	S	S
Propane (Liquid)	C	C	A	B	B	S	S	S
Propene Bromide	C	C	C	C	C	C	C	C

**Legend:****A** Little or No Action**B** Moderate Action**C** Strong Action**S** Unknown

Hose Chemical Resistance	EPDM	Natural Rubber	Perbunan-Nitrile Rubber	Neoprene	Hypalon	Varprene	Silicone	PharMed®
Propene Carbonate	A	A	C	B	C	C	C	C
Propene Glycol	S	A	A	B	C	C	C	C
Propyl Alcohol	A	C	C	S	S	A	B	A
Propyl Benzene	A	A	A	S	S	S	S	S
Quicksilver Nitrate	A	A	A	B	C	C	C	C
Rapeseed Oil	C	C	B	B	C	C	C	C
Resin (Rosin)	C	C	B	B	S	S	S	S
Rotenone in Water	A	A	A	B	S	S	S	S
Seawater	A	A	A	A	A	A	A	A
Sewage Water (no hydrocarbon)	A	A	A	A	A	A	A	A
Shell DD	C	C	B	S	S	S	S	S
Silicium Carbide Slurry	A	A	A	A	B	S	B	S
Silicone Fluoride	A	A	C	A	A	A	C	A
Silicone Oil	A	A	A	A	A	A	C	A
Silver Cyanide (74 GRLTR)	A	A	B					
Silver Nitrate	A	A	A	A	A	A	A	a
Soap Oil	C	C	B	B	A	A	A	A
Soap Solutions	A	A	B	B	A	A	A	A
Soda	A	A	A	B	B	A	A	A
Sodium Acetate	A	A	A	B	C	S	S	S
Sodium Aluminum Silicate	A	A	A	B	C	A	S	A
Sodium Bicarbonate	A	A	A	A	C	A	A	A
Sodium Bisulfate	A	A	A	B	C	A	A	A
Sodium Bromide	A	A	C	B	C	S	S	S
Sodium Carbonate	A	A	A	A	A	A	A	A
Sodium Chlorate	A	C	C	C	C	A	C	A
Sodium Chloride	A	A	A	A	A	A	A	A
Sodium Chloride (Nac0102) 25%	A	A	A	A	A	A	A	A
Sodium Cyanide	A	A	A	A	A	A	A	A
Sodium Dichromate	A	B	B	B	S	A	B	A
Sodium Fluoraluminate	A	A	A	A	A	A	S	A
Sodium Fluoride	A	A	A	B	S	B	S	B
Sodium Hydrosulphide	A	A	A	B	S	B	S	B
Sodium Hydroxide 50% (caustic soda)	A	A	B	B	A	B	B	B
Sodium Hypochlorite 20%	B	C	C	C	A	S	B	S
Sodium Meta Phosphate	A	A	A	A	B	A	S	A
Sodium Metaborate 10% (65°C)	A	A	A	A	B	S	S	S
Sodium Nitrate	A	A	A	A	B	A	S	A
Sodium Nitrite (70°F)	A	A	A	A	B	S	S	S

**Legend:****A** Little or No Action**B** Moderate Action**C** Strong Action**S** Unknown

Hose Chemical Resistance	Perbunan-							
	EPDM	Natural Rubber	Nitrile Rubber	Neoprene	Hypalon	Varprene	Silicone	PharMed®
Sodium Perborate	A	B	C	B	B	A	B	A
Sodium Peroxide	A	C	C	B	B	B	B	B
Sodium Phosphate	A	A	A	B	B	B	B	B
Sodium Phosphate Dibasic	A	A	A	B	S	A	B	A
Sodium Phosphate Monobasic	A	A	A	B	S	A	B	A
Sodium Phosphate Tribasic	A	A	A	B	S	A	B	A
Sodium Salt	A	A	A	B	B	A	B	A
Sodium Silicate	A	A	A	B	B	A	B	A
Sodium Silico Aluminate	A	A	A	B	B	A	B	A
Sodium Sulfate	A	A	A	B	B	A	B	A
Sodium Sulfide	A	A	A	B	B	A	B	A
Sodium Sulfite	A	A	A	B	B	A	B	A
Sodium Thiosulfate	A	A	A	B	B	A	B	A
Soya Oil	C	C	A	C	S	A	B	A
Spirit (Ethyl Alcohol)	A	A	B	B	S	A	B	A
Stannic Chloride	A	A	A	B	C	A	B	A
Stearic Acid	C	C	B	B	B	A	B	A
Styrene (Monomer)	C	C	C	C	C	C	C	C
Sulfamic Acid 3%	A	A	B	B	S	S	S	S
Sulfur Chloride	A	B	C	C	C	C	C	C
Sulfur Dioxide Gas	A	C	C	C	C	A	C	A
Sulfuric Acid 10% Cold	A	A	A	B	C	A	C	A
Sulfuric Acid 30%	A	A	B	B	C	A	C	A
Sulfuric Acid (65°C)	S	S	S	C	C	A	C	A
Sulfuric Acid 50%	A	B	B	C	C	A	C	A
Sulfuric Acid 75% (Cold)	A	B	C	C	B	B	C	B
Sulfuric Acid 95% (Cold)	B	C	C	C	B	C	C	C
Sulfurous Acid 10%	A	A	B	B	A	A	C	A
Sulfurous Acid 75%	A	B	C	B	A	A	C	A
Sulfur Smoke	A	A	B	B	B	S	S	S
Sulfur Trioxide	B	C	C	C	B	B	B	B
Sulfur Dioxide 5% in Water	A	A	B	B	C	A	B	A
Sulphonic Acid	C	C	C	C	C	S	S	S
Tallow	C	C	B	C	C	S	C	S
Tannic Acid	A	A	S	B	B	A	B	A
Tar	C	C	C	C	C	S	S	S
Tartaric Acid	A	A	A	A	A	A	A	A
Tartaric Oil	A	A	B	B	S	A	S	A
Tetrabromoethane	C	C	C	C	C	S	C	S
Tetrachlorodifluorethane	C	C	C	C	C	C	C	C
Tetrachloroethane	C	C	C	C	C	C	C	C

**Legend:****A** Little or No Action**B** Moderate Action**C** Strong Action**S** Unknown

Hose Chemical Resistance	EPDM	Natural Rubber	Perbunan-Nitrile Rubber	Neoprene	Hypalon	Varprene	Silicone	PharMed®
Tetrachloronaphthalene	C	C	C	C	C	C	C	C
Tetrahydrofuran	C	C	C	C	C	C	C	C
Toluene	C	C	C	C	C	C	C	C
Tributoxy Phosphate	C	C	C	C	C	C	C	C
Tributyl Phosphate	C	C	C	C	C	C	C	C
Trichloro Benzene	C	C	C	C	C	C	C	C
Trichloro Ethene	C	C	C	C	C	C	C	C
Trichloro Fluorine Methane	C	C	C	C	C	C	C	C
Trichloro Trifluor Ethane	C	C	C	C	C	C	C	C
Triethanol Amine	C	C	C	C	C	C	C	C
Trisodium Phosphate	C	C	C	C	C	A	C	A
Tung Oil (China Wood Oil)	C	C	C	A	S	A	S	A
Turpentine	C	C	C	C	C	A	C	A
Uranium	A	A	A	S	S	S	S	s
Urea	A	A	A	S	S	A	A	A
Urine	A	A	B	C	S	A	S	A
Vegetable Oil	C	C	B	A	S	A	A	A
Vinegar	A	B	C	A	A	A	A	A
Vinegar Anhydride 50%	B	C	C	S	S	S	S	S
Vinyl Chloride	C	C	C	S	S	S	S	S
Water	A	A	A	A	A	A	A	A
Water (Condensation)	A	A	A	A	A	A	A	A
Water (Distilled)	A	A	A	A	A	A	A	A
Water (Drinking)	A	A	A	A	A	A	A	A
Water (Mineral with Oxydized Salts)	A	B	C	S	S	S	S	S
Water (Mineral without Oxydized Salts)	A	A	A	A	A	A	A	A
Whisky and Wine	A	A	A	A	A	A	A	A
White Oil 10%	C	C	A	S	S	S	S	S
White Spirit	C	C	B	S	S	B	S	B
Wood Oil	C	C	C	A	S	A	S	A
Xylene	C	C	C	C	C	C	C	C
Zeolite	A	B	B	A	S	S	S	S
Zinc Chloride	A	A	A	A	A	A	A	A
Zinc Oxide (27°C)	A	A	A	S	S	S	S	S
Zinc Sulfate	A	A	A	A	A	A	A	A

**Legend:**

**A** Little or No Action  
**C** Strong Action

**B** Moderate Action  
**S** Unknown





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