

## Selection of Plastic Material

Many factors can affect the chemical resistance of plastics. These include, but are not limited to, exposure time, extremes of temperature and pressure, frequency of temperature and/or pressure cycling, attrition due to abrasive particles, and the type of mechanical stress imposed. The fact that certain combinations of chemical and mechanical load can induce stress cracking in many otherwise chemically resistant materials, both metallic and nonmetallic, is of particular significance.

The chemical/temperature ratings presented are based on well-processed or well-fabricated test specimens being essentially resistant to either chemical attack and/or severe swelling which would normally impair their performance under moderate mechanical stresses.

Operating characteristics are dependent upon the particular application of polypropylene, polyethylene, PVC, or CPVC and may differ from those experienced in either laboratory testing or apparently similar field service. Because corrosive fluids or vapors are often mixtures of various individual chemicals, it is strongly recommended that trial installations be evaluated under actual service conditions.

For example, immersion testing in individual chemicals at a specific operating temperature doesn't predict the performance of polypropylene, polyethylene, PVC, or CPVC should an exothermic reaction take place when mixtures of chemicals are involved.

The ratings given on the following pages are a guide and do not constitute a warranty of any kind, expressed or implied, with respect to the performance of polypropylene, polyethylene, PVC, or CPVC, in any specific application.

1	<15% loss in property values. Little or no chemical attack. □
2	15-30% loss in property values. Minor chemical attack. □
3	30-50% loss in property values. Moderate chemical attack. □
NR	Not recommended. >50% loss in property values. □
*	No data available.

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# Material Selection Chemical Resistance Charts

	Salco Polyethylene			Polypropylene			Polyethylene		PVC		CPVC		
	70°	122°	170°	70°	140°	180°	70°	140°	70°	140°	70°	170°	210°
Acetate Solvents Pure	1	2	NR	2	NR	NR	1	3	NR	NR	NR	NR	NR
Acetaldehyde	2	3	NR	2	3	*	3	NR	NR	NR	NR	NR	NR
Acetamide	*	*	*	1	2	*	1	*	NR	NR	*	*	*
Acetic Solvents Crude	*	*	*	2	NR	NR	1	3	NR	NR	NR	NR	NR
Acetic Solvents Pure	1	1	NR	2	NR	NR	1	*	NR	NR	NR	NR	NR
Acetic Acid 10%	1	2	NR	1	1	1	1	1	1	1	1	2	NR
Acetic Acid 20%	1	2	NR	1	1	1	1	1	1	1	1	NR	NR
Acetic Acid 50%	1	2	NR	1	1	1	1	2	3	NR	NR	NR	NR
Acetic Acid 80%	1	2	NR	1	1	1	2	2	NR	NR	NR	NR	NR
Acetic Acid Glacial	1	2	NR	1	1	2	1	NR	NR	NR	NR	NR	NR
Acetic Anhydride	1	2	NR	2	NR	NR	3	NR	NR	NR	NR	NR	NR
Acetone	1	1	NR	1	1	2	NR	NR	NR	NR	NR	NR	NR
Acetophenone	3	3	*	2	2	NR	*	*	NR	NR	*	*	*
Acetyl Chloride	*	*	*	*	*	*	*	*	NR	NR	NR	NR	NR
Acetylene	*	*	*	1	*	*	*	*	1	1	1	1	*
Acrylonitrile	*	*	*	1	2	*	2	2	*	*	*	*	*
Adipic Acid	*	*	*	1	2	2	*	*	1	1	1	1	*
Alcohol Allyl	1	NR	NR	2	2	*	2	2	NR	NR	NR	NR	NR
Alcohol Amyl	1	NR	NR	1	2	*	1	2	NR	NR	2	NR	NR
Alcohol Butyl	1	1	1	1	1	2	1	1	NR	NR	2	NR	NR
Alcohol Ethyl	1	1	1	1	1	2	2	NR	1	1	1	1	1
Alcohol Methyl	*	*	*	1	1	1	1	1	1	1	1	1	1
Alcohol Propyl	*	*	*	1	*	*	2	NR	1	NR	1	*	*
Allyl Chloride	1	3	*	2	*	*	2	NR	NR	NR	NR	NR	NR
Alum	1	1	*	1	1	1	1	1	1	1	1	1	1
Alum Ammonium	*	*	*	1	1	1	1	1	NR	NR	NR	NR	NR
Alum Chrome	*	*	*	1	1	1	1	1	1	1	1	1	1
Alum Potassium	*	*	*	1	1	1	1	1	1	1	1	1	1
Aluminum Chloride	1	1	Boiling NR	1	1	1	1	1	1	1	1	1	1
Aluminum Fluoride	1	1	*	1	1	1	1	1	1	1	1	1	1
Aluminum Hydroxide	1	1	*	1	1	1	1	*	1	1	1	1	1
Aluminum Nitrate	*	*	*	1	1	1	1	*	1	1	1	1	1
Aluminum Sulfate	1	1	Boiling NR	1	1	*	1	2	1	1	1	1	1
Ammonia Anhydrous	1	1	*	1	1	1	*	*	2	NR	*	*	*
Ammonia Aqueous	1	1	*	1	1	1	*	*	1	1	1	1	*
Ammonium Bifluoride	*	*	*	1	1	1	1	1	1	1	1	1	*
Ammonium Carbonate	1	*	*	1	1	1	1	1	1	1	1	1	*
Ammonium Chloride	1	1	Boiling NR	1	1	2	1	1	1	1	1	1	*
Ammonium Fluoride 10%	*	*	*	1	1	1	1	1	1	1	1	1	*
Ammonium Fluoride 25%	*	*	*	1	1	1	1	1	NR	NR	NR	NR	NR
Ammonium Hydroxide	1	1	*	1	1	1	1	1	1	1	1	1	*
Ammonium Metaphosphate	*	*	*	1	1	1	1	1	1	1	1	1	*
Ammonium Nitrate	1	1	1	1	1	1	1	1	1	1	1	1	*
Ammonium Persulfate	1	1	*	1	1	1	1	1	1	1	1	1	*
Ammonium Phosphate	1	*	*	1	1	1	1	1	1	1	1	1	*
Ammonium Sulfate	1	1	Boiling NR	1	1	1	1	1	1	1	1	1	*
Ammonium Sulfide	*	*	*	1	1	1	*	*	1	1	1	1	*
Amyl Acetate	1	*	*	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR

- 1 < 15% loss in property values. Little or no chemical attack.
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- NR Not recommended. > 50% loss in property values.
- \* No data available.



**SALCO PRODUCTS, INC.**



# Material Selection Chemical Resistance Charts

	Salco Polyethylene			Polypropylene			Polyethylene		PVC		CPVC		
	70°	122°	170°	70°	140°	180°	70°	140°	70°	140°	70°	170°	210°
Amyl Chloride	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Aniline	1	2	3	1	3	3	NR	NR	NR	NR	NR	NR	NR
Aniline Hydrochloride	*	*	*	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Antimony Trichloride	1	*	*	1	1	1	1	1	1	NR	NR	NR	NR
Aqua Regia	2	3	NR	2	NR	NR	NR	NR	3	NR	NR	NR	NR
Arsenic Acid	1	*	*	1	1	1	1	1	1	1	1	1	*
Barium Carbonate	*	*	*	1	1	1	1	1	1	1	1	1	*
Barium Chloride	1	*	*	1	1	1	1	1	1	1	1	1	*
Barium Hydroxide	1	1	*	1	1	2	1	1	1	1	1	1	*
Barium Sulfate	1	*	*	2	NR	NR	1	1	1	2	1	1	1
Barium Sulfide	1	1	*	1	1	1	1	1	1	2	1	1	1
Beer	1	1	1	1	1	1	1	1	1	1	1	1	1
Beef Sugar Liquors	*	*	*	1	2	*	1	1	1	1	1	1	1
Benzaldehyde	1	*	*	1	NR	NR	NR	NR	NR	NR	NR	NR	NR
Benzene	3	NR	*	3	NR	NR	NR	NR	NR	NR	NR	NR	NR
Benzene Sulfonic Acid	1	1	*	2	NR	NR	NR	NR	1	1	1	1	*
Benzoic Acid	1	1	*	1	NR	NR	1	*	1	2	1	1	*
Benzyl Alcohol	1	1	1	1	3	NR	*	*	NR	NR	NR	NR	NR
Benzyl Chloride	*	*	*	1	1	2	*	*	2	NR	*	*	*
Bismuth Carbonate	*	*	*	1	1	1	1	1	1	1	1	1	1
Borax	1	1	*	1	1	2	1	1	1	1	1	1	*
Boric Acid	1	1	*	1	1	1	1	1	1	1	1	1	*
Bromine Liquid	*	*	*	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Bromine Water	3	*	*	NR	NR	NR	NR	NR	1	1	NR	NR	NR
Butadiene	3	NR	NR	NR	NR	NR	2	*	NR	NR	1	1	*
Butane	1	*	*	1	NR	NR	2	*	2	NR	1	NR	NR
Butyl Acetate	1	*	*	2	NR	NR	NR	NR	NR	NR	NR	NR	NR
Butyl Alcohol	1	1	1	1	1	1	2	2	NR	NR	1	NR	NR
Butylene	1	*	*	2	NR	NR	2	*	3	NR	2	NR	NR
Butyl Phenol	*	*	*	2	*	*	2	*	NR	NR	2	NR	NR
Butyne Diol	*	*	*	1	1	*	2	*	1	NR	1	NR	NR
Butyric Acid	1	2	*	1	1	1	2	*	NR	NR	1	NR	NR
Butyl Amine	*	*	*	3	NR	*	3	NR	NR	NR	*	*	*
Butyl Ether	*	*	*	NR	NR	NR	2	NR	1	1	*	*	*
Butyl Chloride	*	*	*	NR	NR	NR	NR	NR	*	*	*	*	*
Butyl Phthalate	1	*	*	2	2	*	3	NR	2	NR	NR	NR	NR
Calcium Bisulfide	*	*	*	1	1	1	1	1	1	1	1	1	1
Calcium Bisulfite	1	*	*	1	1	1	1	1	1	1	1	1	1
Calcium Carbonate	*	*	*	1	1	1	1	1	1	1	1	1	1
Calcium Chlorate	*	*	*	1	1	1	1	1	1	1	1	1	*
Calcium Chloride	1	1	1	1	1	1	1	1	1	1	1	1	1
Calcium Hydroxide	1	1	Boiling NR	1	1	2	1	1	1	1	1	1	1
Calcium Hypochlorite	1	1	Boiling NR	1	2	2	1	1	1	1	1	1	*
Calcium Nitrate	*	*	*	1	1	1	1	1	1	1	1	1	*
Calcium Sulfate	1	1	*	1	1	1	1	1	1	1	1	1	1
Carbolic Acid	1	*	*	1	1	2	1	1	1	1	1	1	*
Carbon Dioxide	1	1	*	1	1	1	1	1	1	1	1	1	1
Carbon Disulfide	NR	*	*	NR	NR	NR	2	2	NR	NR	NR	NR	NR

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- \* No data available.



**SALCO PRODUCTS, INC.**



# Material Selection

## Chemical Resistance Charts

	Salco Polyethylene			Polypropylene			Polyethylene		PVC		CPVC		
	70°	122°	170°	70°	140°	180°	70°	140°	70°	140°	70°	170°	210°
Carbon Monoxide	*	*	*	1	1	1	1	1	1	1	1	1	1
Carbon Tetrachloride	3	*	*	2	3	NR	NR	NR	NR	NR	NR	NR	NR
Castor Oil	*	*	*	1	3	NR	1	1	1	1	1	1	NR
Caustic Potash	1	1	*	1	1	1	1	1	1	1	1	1	1
Caustic Soda	1	1	1	1	2	2	1	*	1	1	1	1	*
Cellosolves	*	*	*	2	3	NR	2	*	1	2	1	2	*
Chloral Hydrate	*	*	*	1	*	*	2	*	1	1	1	1	*
Chloric Acid	*	*	*	NR	NR	NR	*	*	1	3	1	2	*
Chlorinated Water	1	1	*	2	3	*	*	*	1	3	*	*	*
Chlorine Dry	2	*	*	3	*	*	NR	NR	NR	NR	NR	NR	NR
Chlorine Wet	2	2	*	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Chloroacetic Acid	NR	*	*	1	1	*	2	*	2	3	1	2	NR
Chlorobenzene	2	NR	*	3	NR	NR	NR	NR	NR	NR	NR	NR	NR
Chloroform	2	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Chlorosulfonic Acid	NR	*	*	3	NR	NR	NR	NR	3	NR	2	NR	NR
Chrome Alum	*	*	*	1	1	NR	1	1	1	1	1	1	NR
Chromic Acid 10%	1	1	Boiling NR	1	1	2	1	2	NR	NR	1	1	*
Chromic Acid 30%	1	1	Boiling NR	1	2	NR	1	3	NR	NR	1	1	*
Chromic Acid 40%	1	1	Boiling NR	1	3	NR	1	NR	NR	NR	1	1	*
Chromic Acid 50%	1	1	Boiling NR	1	NR	NR	1	NR	NR	NR	1	1	*
Citric Acid	1	1	3	1	1	1	1	1	1	2	1	1	1
Coconut Oil	*	*	*	1	1	*	1	1	1	1	1	1	1
Copper Carbonate	*	*	*	1	1	1	*	*	1	1	1	1	1
Copper Chloride	1	*	*	1	1	1	1	1	1	1	1	1	1
Copper Cyanide	1	*	*	1	1	1	1	1	1	1	*	*	*
Copper Fluoride	*	*	*	1	1	1	1	1	1	1	1	1	1
Copper Nitrate	1	*	*	1	1	1	1	1	1	2	1	1	1
Copper Sulfate	1	1	*	1	1	1	1	1	1	2	1	1	1
Cottonseed Oil	1	2	*	1	1	1	1	1	1	1	1	1	1
Cresol	*	*	*	NR	NR	NR	NR	NR	NR	NR	2	NR	NR
Cresylic Acid	1	*	*	NR	NR	NR	NR	NR	NR	NR	2	NR	NR
Croton Aldehyde	1	1	*	1	NR	NR	2	*	NR	NR	NR	NR	*
Crude Oil	1	2	*	1	2	*	NR	NR	1	1	1	1	*
Cyclohexane	1	1	*	3	NR	NR	*	*	2	NR	1	*	*
Cyclohexanol	1	1	1	2	*	*	*	*	NR	NR	NR	NR	NR
Cyclohexanone	1	*	*	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Detergent	1	1	1	1	1	1	1	1	1	1	1	1	*
Dextrin	*	*	*	1	1	*	1	1	1	1	1	1	*
Dextrose	1	*	*	1	1	*	1	1	1	1	1	1	*
Diacetone Alcohol	*	*	*	1	2	*	*	*	NR	NR	NR	NR	NR
Diazo Salts	1	1	*	1	1	*	1	1	1	1	1	1	*
Dibutyl Phthalate	1	1	*	1	2	NR	*	*	NR	NR	NR	NR	NR
Dichlorobenzene	*	*	*	3	NR	NR	*	*	3	NR	*	*	*
Dichlorodifluoro Methane	*	*	*	1	2	*	*	*	1	NR	*	*	*
Dichloroethylene	NR	*	*	1	NR	NR	*	*	NR	NR	NR	NR	NR
Dichloroethane	3	*	Boiling NR	1	*	*	*	*	NR	NR	*	*	*
Diesel Fuel	1	1	NR	2	3	NR	2	3	1	2	1	2	NR
Diethylamine	*	*	*	1	2	2	2	*	NR	NR	NR	NR	NR

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- NR Not recommended. >50% loss in property values.
- \* No data available.



**SALCO PRODUCTS, INC.**



# Material Selection Chemical Resistance Charts

	Salco Polyethylene			Polypropylene			Polyethylene		PVC		CPVC		
	70°	122°	170°	70°	140°	180°	70°	140°	70°	140°	70°	170°	210°
Diethylene Glycol	*	*	*	1	1	1	*	*	3	NR	*	*	*
Diethyl Cellosolve	*	*	*	*	*	*	*	*	*	*	*	*	*
Diethyl Ether	1	*	*	NR	NR	NR	*	*	NR	NR	NR	NR	NR
Diglycolic Acid	*	*	*	1	NR	NR	*	*	1	1	1	1	*
Dimethylamine	*	*	*	1	1	*	2	*	NR	NR	NR	NR	NR
Dimethyl Formamide	1	*	*	1	1	*	*	*	NR	NR	NR	NR	NR
Dimethyl Sulfoxide	*	*	*	1	2	*	*	*	NR	NR	*	*	*
Diocyl Phthalate	*	*	*	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Dioxane 1,4	*	*	*	1	NR	NR	NR	NR	NR	NR	NR	NR	NR
Diphenyl	*	*	*	NR	*	*	*	*	*	*	*	*	*
Diphenyl Ether	*	*	*	NR	*	*	*	*	NR	*	*	*	*
Diphenyl Oxide	*	*	*	*	*	*	*	*	NR	*	2	*	*
Dipropylene Glycol	*	*	*	1	2	*	*	*	2	3	*	*	*
Distilled Water	1	1	1	1	1	1	1	1	1	1	1	1	1
Diznilybenzene	*	*	*	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Epichlorohydrin	*	*	*	1	1	*	*	*	NR	NR	NR	NR	NR
Ethane	1	*	*	3	*	*	*	*	NR	*	NR	NR	NR
Ethanolamine	*	*	*	1	1	2	*	*	3	*	*	*	*
Ethers	2	*	*	NR	*	*	*	*	NR	*	*	*	*
Ethyl Acetate	1	1	NR @ 140	1	1	2	2	*	NR	*	NR	NR	NR
Ethyl Acetoacetate	*	*	*	NR	*	*	*	*	NR	NR	NR	NR	NR
Ethyl Acrylate	*	*	*	NR	*	*	2	NR	NR	NR	NR	NR	NR
Ethyl Alcohol	*	*	*	1	1	2	2	NR	1	1	1	2	*
Ethyl Benzene	1	*	*	NR	*	*	*	*	NR	*	*	*	*
Ethyl Benzoate	*	*	*	2	3	*	*	*	NR	*	*	*	*
Ethyl Butyrate	*	*	*	2	NR	*	*	*	NR	*	*	*	*
Ethyl Chloride	*	*	*	NR	*	*	NR	*	NR	*	NR	NR	*
Ethyl Ether	NR	*	*	3	NR	*	NR	*	3	NR	NR	NR	NR
Ethyl Sulfate	*	*	*	*	*	*	*	*	*	*	*	*	*
Ethylene Bromide	*	*	*	NR	NR	NR	NR	NR	NR	*	NR	*	*
Ethylene Chloride	2	NR	*	3	NR	*	*	*	NR	*	NR	NR	*
Ethylene Chlorohydrine	*	*	*	NR	*	*	NR	NR	NR	*	NR	NR	*
Ethylene Diamine	1	*	*	1	*	*	NR	*	NR	*	NR	*	*
Ethylene Dibromide	*	*	*	2	*	*	*	*	NR	*	*	*	*
Ethylene Dichloride	3	*	*	2	3	NR	NR	*	NR	NR	NR	NR	*
Ethylene Glycol	1	1	1	1	1	1	1	1	1	1	1	1	1
Ethylene Oxide	1	3	*	2	3	*	NR	NR	NR	*	NR	*	*
Fatty Acids	1	1	*	1	1	1	1	1	1	1	1	1	1
Ferric Chloride (Concentrated)	1	1	Boiling NR	1	1	1	1	1	1	1	1	1	1
Ferric Nitrate	1	*	*	1	1	1	1	1	1	1	1	1	1
Ferric Sulfate	1	*	*	1	1	1	1	1	1	1	1	1	1
Ferrous Chloride	1	*	*	1	1	1	1	1	1	1	1	1	1
Ferrous Sulfate	1	*	*	1	1	1	1	1	1	1	1	1	1
Fish Solubles	1	1	1	1	1	1	1	1	1	1	1	1	1
Fluoboric Acid	1	1	*	1	1	1	1	*	1	1	1	1	*
Fluorine Gas (Dry)	NR	NR	NR	NR	*	*	1	*	NR	NR	1	*	*
Fluorine Gas (Wet)	3	*	*	NR	*	*	1	*	NR	*	NR	*	*
Floussilic Acid	1	*	*	1	1	1	1	*	1	3	1	1	*

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# Material Selection Chemical Resistance Charts

	Salco Polyethylene			Polypropylene			Polyethylene		PVC		CPVC		
	70°	122°	170°	70°	140°	180°	70°	140°	70°	140°	70°	170°	210°
Formaldehyde	1	1	*	1	1	2	1	*	2	2	1	NR	NR
Formic Acid	1	1	*	1	NR	NR	1	2	3	NR	1	NR	NR
Freon Dry	*	*	*	NR	*	*	*	*	*	*	*	*	*
Freon Wet	*	*	*	1	2	2	*	*	*	*	*	*	*
Fructose	1	1	1	1	1	1	1	1	1	1	1	1	1
Fruit Juice	1	1	1	1	1	1	1	1	1	1	1	1	1
Furfural	1	*	*	NR	*	*	NR	*	NR	*	NR	NR	*
Gallic Acid	1	1	*	1	1	1	NR	*	1	1	1	1	*
Gas Manufactured	*	*	*	NR	NR	NR	NR	NR	1	*	1	1	*
Gas Natural	NR	*	2	*	*	NR	NR	1	2	1	1	*	*
Gasoline (Leaded)	*	*	*	3	NR	NR	3	NR	2	NR	NR	NR	*
Gasoline (Unleaded)	1	2	*	3	NR	NR	3	NR	2	NR	NR	NR	*
Gelatin	1	*	*	1	1	1	1	1	1	1	1	1	1
Glucose	1	*	*	1	1	1	1	1	1	1	1	1	1
Glue	1	*	*	1	*	*	*	*	1	1	1	1	*
Glycerine	1	1	1	1	1	1	1	1	1	2	1	1	*
Glycol	1	1	1	1	1	1	1	1	1	1	1	1	*
Glycolic Acid	*	*	*	1	1	1	2	*	1	1	1	1	*
Green Liquor	*	*	*	1	*	*	*	*	1	1	1	1	*
Helium	*	*	*	1	*	*	*	*	*	*	*	*	*
Heptane	1	1	*	2	NR	*	NR	NR	3	NR	1	1	*
Hexamine	*	*	*	*	*	*	*	*	*	*	*	*	*
Hexane	1	*	*	2	NR	NR	NR	NR	2	NR	1	*	*
Hexanol Tertiary	*	*	*	1	2	*	2	NR	2	2	1	1	NR
Hydrazine	*	*	*	3	*	*	NR	NR	NR	NR	*	*	*
Hydraulic Fluid (Petroleum)	1	*	*	NR	*	*	NR	*	NR	*	*	*	*
Hydrobromic Acid (37%)	1	1	*	1	2	3	1	1	2	NR	*	*	*
Hydrochloric Acid (>20%)	1	1	Boiling NR	1	1	1	1	2	2	2	1	*	*
Hydrochloric Acid (50%)	1	1	Boiling NR	1	1	2	1	2	2	2	1	1	*
Hydrocyanic Acid	1	1	*	1	1	1	1	1	1	1	1	1	*
Hydrofluoric Acid (>40%)	1	2	*	1	1	2	1	1	2	3	NR	*	*
Hydrofluosilicic Acid	1	*	*	1	1	1	*	*	NR	NR	NR	NR	NR
Hydrofluosilicic Acid	1	*	*	1	1	1	*	*	1	2	*	*	*
Hydrogen Chloride	1	1	*	1	1	*	1	1	1	*	*	*	*
Hydrogen Cyanide	1	1	*	1	1	1	1	1	1	1	1	1	1
Hydrogen Fluoride	1	1	*	1	*	*	*	*	2	*	NR	*	*
Hydrogen Gas	1	*	*	1	1	1	1	1	1	2	1	1	1
Hydrogen Peroxide	1	2	3	1	2	3	1	2	1	1	1	*	*
Hydrogen Sulfide (Wet or Dry)	1	*	*	1	1	1	1	1	1	1	1	1	*
Hydroquinone	1	1	*	1	1	1	1	1	1	1	1	1	*
Hydroxylamine Sulfate	*	*	*	1	1	*	*	*	1	1	1	1	1
Hypo Sodium Thiosulfate	*	*	*	1	1	1	*	*	1	1	1	1	1
Hypochlorous Acid	*	*	*	1	1	*	2	NR	1	1	1	1	*
Iodine	1	*	*	1	1	1	2	NR	NR	NR	1	NR	NR
Isobutyl Alcohol	*	*	*	1	2	2	*	*	2	3	*	*	*
Isooctane	1	*	*	1	NR	NR	*	*	1	*	*	*	*
Isopropyl Acetate	*	*	*	2	3	*	*	*	NR	NR	*	*	*
Isopropyl Alcohol	1	1	1	1	1	1	*	*	1	2	1	*	*

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- \* No data available.



SALCO PRODUCTS, INC.



# Material Selection Chemical Resistance Charts

	Salco Polyethylene			Polypropylene			Polyethylene		PVC		CPVC		
	70°	122°	170°	70°	140°	180°	70°	140°	70°	140°	70°	170°	210°
Isopropyl Ether	1	*	*	2	NR	NR	*	*	3	*	NR	*	*
Jet Fuel (JP3,4,5)	*	*	*	3	NR	*	*	*	1	1	1	1	*
Kerosene	1	3	*	1	NR	*	NR	NR	1	1	1	1	*
Keytones	2	NR	*	2	NR	*	*	*	NR	*	NR	*	*
Lactic Acid	1	1	*	1	1	2	1	1	2	3	1	1	*
Lacquer Solvents	1	*	*	NR	*	*	*	*	NR	*	*	*	*
LPG (Propane)	*	*	*	1	2	*	*	*	NR	NR	*	*	*
Lard	1	1	*	2	NR	*	NR	NR	1	2	1	1	*
Lauric Acid	*	*	*	1	1	*	2	NR	1	1	1	1	*
Lauryl Chloride	*	*	*	1	1	*	NR	*	1	1	1	1	*
Lead Acetate	1	*	*	1	1	2	1	1	1	1	1	1	*
Lead Molten	NR	NR	NR	NR	*	*	NR	*	NR	*	NR	*	*
Lead Nitrate	1	1	*	1	1	*	*	*	2	2	*	*	*
Lead Sulfamate	*	*	*	1	1	*	*	*	1	*	*	*	*
Lime	*	*	*	1	1	1	*	*	1	2	*	*	*
Lime Sulfur	1	*	*	1	1	1	*	*	1	1	*	*	*
Lineoleic Acid	*	*	*	2	*	*	2	NR	1	1	1	1	*
Linseed Oil	1	1	NR	1	1	1	NR	NR	1	1	1	*	*
Lithium Chloride	1	*	*	1	*	*	*	*	1	*	*	*	*
Lithium Hydroxide	1	*	*	1	*	*	*	*	1	1	*	*	*
Lubricating Oil	1	*	*	1	NR	*	*	*	2	2	1	1	*
Lye	1	1	1	1	1	1	*	*	1	1	1	1	*
Machine Oil	*	*	*	1	1	NR	*	*	1	1	1	1	*
Magnesium Bisulfate	*	*	*	1	2	*	1	1	1	2	1	1	*
Magnesium Carbonate	*	*	*	1	1	1	1	1	1	1	1	1	*
Magnesium Chloride	1	1	*	1	1	1	1	1	1	1	1	1	*
Magnesium Hydroxide	1	1	*	1	1	1	1	1	1	1	1	1	*
Magnesium Nitrate	*	*	*	1	1	1	1	1	1	1	1	1	*
Magnesium Sulfate	1	*	*	1	1	1	1	1	1	1	1	1	*
Maleic Acid	1	1	*	1	1	1	1	1	1	1	1	1	*
Malic Acid	*	*	*	1	NR	*	*	*	1	1	1	1	*
Manganese Chloride	1	*	*	1	*	*	*	*	1	*	1	*	*
Manganese Sulfate	*	*	*	2	*	*	*	*	2	2	*	*	*
Mercuric Chloride	1	*	*	1	1	1	1	1	1	1	1	*	*
Mercuric Cyanide	*	*	*	1	1	1	1	1	3	3	1	1	*
Mercurous Nitrate	*	*	*	1	1	1	1	1	3	3	1	1	*
Mercury	1	1	*	2	2	2	1	1	1	1	1	1	*
Methane	1	*	*	1	*	*	*	*	1	1	1	*	*
Methanol	1	*	*	1	1	1	1	1	1	3	1	1	1
Methyl Acetate	1	*	*	1	*	*	*	*	NR	*	*	*	*
Methyl Acetone	*	*	*	*	*	*	*	*	NR	*	*	*	*
Methyl Amine	*	*	*	1	*	*	*	*	NR	*	*	*	*
Methyl Bromide	*	*	*	2	NR	*	2	*	NR	*	NR	*	*
Methyl Cellosolve	*	*	*	2	*	*	*	*	NR	*	NR	*	*
Methyl Chloroform	2	NR	*	2	*	*	*	*	NR	*	NR	*	*
Methyl Chloride Wet	2	*	*	3	NR	*	NR	*	NR	*	NR	*	*
Methyl Chloride Dry	2	*	*	NR	*	*	*	*	NR	*	*	*	*
Methyl Ethyl Keytone	1	*	*	NR	*	*	NR	*	NR	*	NR	*	*

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**SALCO PRODUCTS, INC.**

[www.salcoproducts.com](http://www.salcoproducts.com)



# Material Selection Chemical Resistance Charts

	Salco Polyethylene			Polypropylene			Polyethylene		PVC		CPVC		
	70°	122°	170°	70°	140°	180°	70°	140°	70°	140°	70°	170°	210°
Methyl Isobutyl Keytone	NR	*	*	NR	*	*	NR	*	NR	*	NR	NR	*
Methyl Salicylate	*	*	*	1	*	*	*	*	1	*	1	*	*
Methyl Sulfate	*	*	*	1	*	*	NR	*	1	NR	1	NR	*
Methyl Sulfuric Acid	*	*	*	1	1	1	1	1	1	1	1	1	*
Methylene Chloride	2	*	*	2	NR	*	NR	*	3	NR	NR	NR	*
Milk	1	1	1	1	1	2	1	1	1	1	1	1	*
Mineral Oil	1	3	NR	2	2	*	NR	NR	1	3	1	1	*
Mixed Acids	*	*	*	NR	*	*	*	*	3	NR	*	*	*
Molasses	1	*	*	1	1	1	1	1	1	1	*	*	*
Morpholine	*	*	*	2	2	*	*	*	*	*	*	*	*
Monochloroacetic Acid	NR	NR	NR	1	1	*	*	*	2	3	*	*	*
Monochlorobenzene	2	NR	*	NR	*	*	NR	*	NR	*	*	*	*
Monochlorodifluoromethane	*	*	*	1	*	*	*	*	NR	*	*	*	*
Monoethanolamine	*	*	*	1	2	2	*	*	NR	*	*	*	*
Motor Oil	1	*	*	3	3	*	*	*	1	1	1	1	1
Mustard	*	*	*	1	1	*	*	*	*	*	*	*	*
Naptha	1	1	NR	3	NR	*	1	1	NR	*	1	*	*
Naphthalene	1	NR	*	2	2	*	1	1	NR	*	NR	*	*
Nickel Chloride	1	1	*	1	1	1	1	1	1	1	1	1	*
Nickel Nitrate	1	*	*	1	1	1	1	1	1	1	1	1	*
Nickel Sulfate	1	*	*	1	1	1	1	1	1	1	1	1	*
Nitric Acid (100%)	NR	*	*	NR	NR	NR	NR	*	NR	NR	NR	NR	NR
Nitric Acid (70%)	NR	*	*	3	NR	NR	NR	*	NR	NR	2	NR	NR
Nitric Acid (50%)	1	*	*	1	2	NR	2	2	1	2	1	3	NR
Nitric Acid (30%)	1	1	*	1	1	2	1	1	1	2	1	2	NR
Nitric Acid (10%)	1	1	*	1	1	2	1	1	1	1	1	1	NR
Nitrobenzene	1	*	*	2	NR	*	NR	*	NR	*	NR	*	*
Nitrous Oxide	*	*	*	1	*	*	*	*	1	3	1	*	*
Orenol	*	*	*	NR	*	*	2	NR	1	1	1	1	*
Oils & Fats	1	*	*	1	1	*	NR	NR	2	2	1	1	*
Oils, Vegetables	1	*	*	1	1	*	*	*	1	1	1	1	*
Oleic Acid	1	1	3	2	2	2	2	NR	1	1	1	1	*
Oxalic Acid	1	1	*	1	1	*	1	1	1	3	1	1	*
Oxygen	1	*	*	1	1	1	1	1	1	1	1	1	1
Ozone	2	3	*	3	*	*	*	*	3	NR	*	*	*
Palmitic Acid	*	*	*	2	2	*	1	1	2	NR	1	*	*
Paraffin	1	*	*	1	*	*	*	*	1	1	*	*	*
Pentane	*	*	*	*	*	*	*	*	3	*	*	*	*
Perchloroethylene	2	*	*	NR	*	*	*	*	NR	*	*	*	*
Perchloric Acid (10%)	1	1	*	NR	*	*	*	*	NR	*	NR	*	*
Petroleum	1	*	*	2	*	*	NR	NR	3	3	*	*	*
Petroleum Ether	1	NR	*	1	1	*	NR	*	*	*	*	*	*
Phenol	1	3	*	1	NR	*	*	*	NR	*	1	*	*
Phenol Sulfonic Acid	*	*	*	*	*	*	*	*	2	2	*	*	*
Phenylhydrazine	*	*	*	*	*	*	*	*	NR	*	NR	*	*
Phosphoric Acid (10%)	1	1	Boiling NR	1	1	1	1	1	1	1	1	1	*
Phosphoric Acid (25%)	1	1	Boiling NR	1	1	1	1	1	1	1	1	1	*
Phosphoric Acid (50-100%)	1	1	Boiling NR	1	1	1	1	2	1	1	1	1	*

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**SALCO PRODUCTS, INC.**



# Material Selection Chemical Resistance Charts

	Salco Polyethylene			Polypropylene			Polyethylene		PVC		CPVC		
	70°	122°	170°	70°	140°	180°	70°	140°	70°	140°	70°	170°	210°
Phosphorus	1	1	*	2	*	*	*	*	2	3	*	*	*
Phosphorus Trichloride	1	1	*	NR	*	*	*	*	NR	NR	NR	*	*
Phosphorus Pentachloride	*	*	*	1	2	2	*	*	3	NR	*	*	*
Photographic Solutions	1	1	*	1	1	3	*	*	1	1	1	1	*
Phthalic Acid	1	1	*	2	2	2	*	*	1	1	*	*	*
Picric Acid	*	*	*	*	*	*	*	*	NR	NR	NR	NR	*
Plating Solutions Brass	*	*	*	1	1	1	1	1	1	1	1	1	1
Plating Solutions Cadmium	*	*	*	1	1	1	1	1	1	1	1	1	1
Plating Solutions Chrome	*	*	*	1	2	3	*	*	2	2	1	1	2
Plating Solutions Copper	*	*	*	1	1	1	1	1	1	*	1	1	1
Plating Solutions Gold	*	*	*	1	1	1	1	1	1	2	1	1	1
Plating Solutions Lead	*	*	*	1	1	1	1	1	1	1	1	1	1
Plating Solutions Nickel	*	*	*	1	1	1	1	1	1	1	1	1	1
Plating Solutions Silver	*	*	*	1	1	1	1	1	1	1	1	1	1
Plating Solutions Tin	*	*	*	1	1	1	1	1	1	1	1	1	2
Plating Solutions Zinc	*	*	*	1	1	1	1	1	1	1	1	1	1
Potassium Acetate (50%)	1	*	*	1	*	*	*	*	1	1	*	*	*
Potassium Aluminum Sulfate	1	1	*	1	1	1	1	1	2	2	1	1	*
Potassium Bicarbonate (60%)	1	*	*	1	1	1	*	*	1	1	1	1	*
Potassium Bichromate (5%)	1	*	*	1	1	1	1	1	1	1	1	1	1
Potassium Bromide (10%)	1	*	*	1	1	1	1	1	1	1	1	1	*
Potassium Carbonate	1	*	*	1	1	1	1	1	1	1	1	1	*
Potassium Chlorate	1	1	*	1	1	1	*	*	1	1	1	1	*
Potassium Chloride	1	*	*	1	1	1	1	1	1	1	1	1	*
Potassium Chromate	1	*	*	1	1	1	1	1	1	1	1	1	*
Potassium Cyanide	1	*	*	1	1	1	1	1	1	1	1	1	*
Potassium Dichromate (5%)	1	*	*	1	1	1	1	1	1	1	1	1	1
Potassium Ferricyanide	1	*	*	1	1	1	1	1	1	1	1	1	*
Potassium Ferrocyanide	1	*	*	1	1	1	*	*	1	1	1	1	*
Potassium Hydrate	1	*	*	*	*	*	*	*	1	2	*	*	*
Potassium Hydroxide	1	1	1	1	1	*	*	*	1	1	1	1	*
Potassium Hypochlorite	2	*	*	NR	*	*	*	*	3	3	1	1	NR
Potassium Iodide	2	*	*	1	1	1	*	*	1	*	1	*	*
Potassium Nitrate (10%)	1	*	*	1	1	1	*	*	1	1	1	1	*
Potassium Permanganate	1	1	*	1	2	3	1	1	1	1	1	1	*
Potassium Persulfate	1	*	*	1	1	*	1	1	1	1	1	1	*
Potassium Sulfate	1	*	*	1	1	1	1	1	1	1	1	1	*
Potassium Sulfide	1	*	*	1	1	1	1	1	1	1	*	*	*
Potassium Sulfite	1	*	*	1	1	*	1	1	2	2	*	*	*
Propane	1	*	*	2	NR	*	*	*	1	2	1	*	*
Propyl Alcohol	1	1	1	1	1	1	2	NR	1	NR	1	NR	*
Propylene Glycol	*	*	*	1	2	*	1	1	3	NR	*	*	*
Propylene Oxide	*	*	*	1	2	*	*	*	3	NR	*	*	*
Pyridine	1	*	*	1	1	*	*	*	NR	*	NR	*	*
Pyrogalllic Acid	*	*	*	1	*	*	*	*	3	*	*	*	*
Pyrolygneous Acid	1	2	NR @ 140	1	2	*	*	*	3	3	*	*	*
Resorcinol	*	*	*	1	1	1	*	*	1	1	*	*	*
Rosin	1	*	*	1	1	*	*	*	3	NR	*	*	*

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SALCO PRODUCTS, INC.



# Material Selection

## Chemical Resistance Charts

	Salco Polyethylene			Polypropylene			Polyethylene		PVC		CPVC		
	70°	122°	170°	70°	140°	180°	70°	140°	70°	140°	70°	170°	210°
Salicylic Acid	*	*	*	1	2	*	1	1	NR	*	*	*	*
Salicylaldehyde	*	*	*	1	2	*	*	*	3	NR	*	*	*
Salt Brine	1	1	1	1	1	1	1	1	1	1	1	1	*
Sea Water	1	1	1	1	1	1	1	1	1	1	1	1	*
Sewage	*	*	*	1	1	1	*	*	1	1	*	*	*
Silicon Oil	1	*	*	1	1	*	*	*	1	NR	1	1	*
Silver Chloride	*	*	*	1	2	*	*	*	1	2	*	*	*
Silver Cyanide	1	1	*	1	1	1	*	*	1	1	1	1	*
Silver Nitrate	1	1	*	1	2	2	*	*	1	2	1	1	*
Soap Solutions	1	1	*	1	1	1	1	1	1	1	1	1	*
Sodium Acetate (60%)	1	1	*	1	1	1	*	*	2	3	1	1	*
Sodium Acid Sulfate	*	*	*	1	1	1	*	*	1	1	*	*	*
Sodium Benzoate (10%)	1	*	*	1	1	1	1	1	1	1	1	1	*
Sodium Bicarbonate	1	*	*	1	1	1	1	1	1	1	1	1	*
Sodium Bichromate	1	1	*	1	1	2	*	*	1	2	*	*	*
Sodium Bisulfate	1	*	*	1	1	1	1	1	1	1	1	1	1
Sodium Bisulfite	1	*	*	1	1	1	1	1	1	1	1	1	1
Sodium Borate	1	1	*	1	1	2	1	1	1	1	1	1	*
Sodium Bromide	*	*	*	1	1	1	1	1	1	1	1	1	*
Sodium Carbonate	1	1	1	1	1	1	1	1	1	1	1	1	*
Sodium Chlorate	1	1	*	1	1	1	1	1	1	2	1	1	*
Sodium Chromate	*	*	*	1	1	*	*	*	*	*	*	*	*
Sodium Cyanide	1	*	*	1	1	1	1	1	1	1	1	1	*
Sodium Dichromate	1	1	*	1	1	2	1	1	1	2	1	1	*
Sodium Ferricyanide	*	*	*	1	1	1	1	1	1	1	1	1	*
Sodium Ferrocyanide	*	*	*	1	1	*	1	1	1	1	1	1	*
Sodium Fluoride	*	*	*	1	1	1	1	1	1	1	1	1	*
Sodium Hydroxide	1	1	1	2	2	2	1	2	1	2	1	1	*
Sodium Hypochlorite	1	1	1	2	*	*	*	*	2	2	1	1	*
Sodium Hyposulfite	1	1	*	*	*	*	*	*	2	2	*	*	*
Sodium Metaphosphate	1	*	*	1	NR	*	*	*	2	2	1	1	*
Sodium Nitrate	1	*	*	1	1	1	1	1	1	1	1	1	*
Sodium Nitrite	1	1	1	1	1	1	1	1	1	1	1	1	*
Sodium Perborate	1	*	*	1	1	1	*	*	1	1	1	1	*
Sodium Peroxide	1	1	*	2	2	*	*	*	2	*	*	*	*
Sodium Phosphates	1	1	1	1	1	1	*	*	1	2	1	1	*
Sodium Silicate	1	*	*	1	1	1	*	*	1	1	1	1	*
Sodium Sulfate	1	*	*	1	1	1	1	1	1	1	1	1	*
Sodium Sulfide	1	*	*	1	1	1	1	1	1	1	1	1	*
Sodium Sulfite (90%)	1	*	*	1	1	2	1	1	1	1	1	1	*
Sodium Thiosulfate	1	1	*	1	1	2	*	*	1	1	1	*	*
Sodium Tetraborate	1	1	1	1	1	2	*	*	1	1	*	*	*
Soy Bean Oil	*	*	*	1	*	*	*	*	1	*	*	*	*
Stannic Chloride	*	*	*	1	1	1	1	1	1	1	1	1	*
Stannous Chloride	*	*	*	1	1	1	1	1	1	2	1	1	*
Starch	*	*	*	1	1	*	*	*	1	1	*	*	*
Stearic Acid	1	*	*	1	2	3	1	1	1	3	*	*	*
Stoddard's Solution	1	3	*	1	NR	*	*	*	NR	*	NR	*	*

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SALCO PRODUCTS, INC.



# Material Selection

## Chemical Resistance Charts

	Salco Polyethylene			Polypropylene			Polyethylene		PVC		CPVC		
	70°	122°	170°	70°	140°	180°	70°	140°	70°	140°	70°	170°	210°
Styrene	*	*	*	*	*	*	*	*	NR	*	*	*	*
Sugar Juice	*	*	*	1	*	*	*	*	2	*	*	*	*
Sulfate Liquor	1	*	*	1	*	*	*	*	1	2	1	1	*
Sulfinol	*	*	*	*	*	*	*	*	*	*	*	*	*
Sulfur	1	1	*	1	1	1	1	1	1	1	*	*	*
Sulfur (Molten)	NR	NR	NR	NR	*	*	NR	*	NR	*	NR	*	*
Sulfur Chloride	*	*	*	NR	*	*	*	*	3	NR	1	1	*
Sulfur Dioxide Gas (Wet)	1	1	*	1	3	NR	1	1	NR	*	NR	*	*
Sulfur Dioxide Gas (Dry)	1	1	*	1	3	*	1	1	1	1	1	*	*
Sulfur Trioxide	*	*	*	NR	*	*	1	1	1	1	1	1	*
Sulfuric Acid (10%)	1	1	*	1	1	1	1	1	1	1	1	1	*
Sulfuric Acid (30%)	1	1	*	1	1	1	1	2	1	1	1	1	*
Sulfuric Acid (60%)	1	1	*	1	1	2	1	2	1	1	1	1	2
Sulfuric Acid (80%)	1	3	*	1	1	3	2	3	1	2	1	1	2
Sulfuric Acid (100%)	1	NR	*	3	NR	NR	NR	NR	NR	NR	NR	*	*
Sulfurous Acid (10%)	1	*	*	1	1	1	1	1	1	1	1	1	*
Tall Oil	*	*	*	1	1	1	*	*	1	1	1	1	1
Tannic Acid	1	1	*	1	1	1	*	*	1	1	1	1	1
Tanning Liquor	1	*	*	1	2	2	1	1	1	1	1	1	1
Taritar Oil	*	*	*	1	*	*	*	*	NR	*	*	*	*
Tartaric Acid (10%)	1	*	*	1	1	1	NR	*	1	2	1	1	*
Tetrachloroacetic Acid	*	*	*	*	*	*	*	*	NR	*	*	*	*
Terchloroethane	*	*	*	NR	*	*	*	*	NR	*	*	*	*
Tetrachloroethylene	2	*	*	NR	*	*	*	*	NR	*	*	*	*
Tetraethyl Lead	*	*	*	2	NR	*	*	*	2	NR	1	*	*
Tetrahydrofuran	2	*	*	3	NR	*	NR	*	NR	*	NR	*	*
Tetrahydronaphthalene	1	*	*	3	NR	*	*	*	*	*	*	*	*
Tetraphosphoric Acid	*	*	*	*	*	*	*	*	*	*	*	*	*
Thionyl Chloride	3	*	*	NR	*	*	NR	*	NR	*	NR	*	*
Tin Tetrachloride	1	*	*	1	1	1	*	*	2	2	*	*	*
Titanium Tetrachloride	*	*	*	NR	*	*	*	*	NR	*	NR	*	*
Toluene	1	3	NR	NR	*	*	NR	*	NR	*	NR	*	*
Tomato Juice	1	*	*	1	1	1	*	*	1	*	1	1	*
Tributyl Citrate	*	*	*	2	3	*	*	*	3	NR	*	*	*
Tributyl Phosphate	*	*	*	2	NR	*	*	*	NR	*	NR	*	*
Transformer Oil	1	1	*	1	NR	*	*	*	NR	*	1	1	*
Trichloroacetic Acid	*	*	*	2	2	NR	*	*	NR	*	1	*	*
Trichloroethane	3	NR	*	NR	*	*	*	*	NR	*	*	*	*
Trichloroethylene	NR	*	*	3	NR	*	NR	*	NR	*	NR	*	*
Trichlorotrifluoroethane	*	*	*	1	*	*	*	*	NR	*	*	*	*
Tricresyl Phosphate	1	*	*	1	2	NR	*	*	NR	*	*	*	*
Triethanolamine	1	*	*	NR	*	*	NR	*	NR	*	NR	*	*
Triethylamine	*	*	*	NR	*	*	*	*	1	3	1	*	*
Triethylene Glycol	*	*	*	1	*	*	*	*	2	3	*	*	*
Trisodium Phosphate	1	1	*	*	*	*	*	*	*	*	*	*	*
Tripropylene Glycol	*	*	*	1	*	*	*	*	2	*	*	*	*
Trisodium Phosphate	1	1	*	1	1	1	1	1	1	1	1	1	*
Tung Oil	*	*	*	1	*	*	*	*	2	2	*	*	*

- 1 < 15% loss in property values. Little or no chemical attack.
- 2 15-30% loss in property values. Minor chemical attack.
- 3 30-50% loss in property values. Moderate chemical attack.
- NR Not recommended. >50% loss in property values.
- \* No data available.



**SALCO PRODUCTS, INC.**



# Material Selection

## Chemical Resistance Charts

	Salco Polyethylene			Polypropylene			Polyethylene		PVC		CPVC		
	70°	122°	170°	70°	140°	180°	70°	140°	70°	140°	70°	170°	210°
Turpentine	1	3	NR	2	NR	*	NR	*	2	3	1	*	*
Undecanol	*	*	*	2	NR	*	*	*	1	3	*	*	*
Urea	1	*	*	1	1	1	1	1	2	NR	1	1	*
Urine	1	1	*	1	1	1	1	1	1	1	1	1	*
Varnish	1	*	*	1	*	*	*	*	NR	*	*	*	*
Vinegar	1	1	*	1	1	1	1	1	1	1	1	1	*
Vinyl Acetate	*	*	*	2	NR	*	2	NR	NR	*	NR	*	*
Vinyl Chloride	1	NR	*	*	*	*	*	*	NR	*	*	*	*
Vinylidene Chloride	*	*	*	NR	*	*	*	*	NR	*	*	*	*
Water, Fresh	1	1	1	1	1	1	1	1	1	1	1	1	1
Water, Acid Mine	1	1	*	1	1	1	1	1	1	1	1	1	NR
Water, Distilled	1	1	*	1	1	1	1	1	1	1	1	1	*
Water, Deionized	*	*	*	1	1	1	1	1	1	1	1	1	*
Water, Demineralized	*	*	*	1	1	1	1	1	1	1	1	1	*
Water, Salt	1	1	*	1	1	1	1	1	1	1	1	1	*
Whiskey	1	*	*	1	1	1	1	*	1	1	1	1	*
White Liquor	NR	*	*	1	1	*	*	*	1	1	1	1	*
White Spirit	1	3	*	1	1	1	*	*	1	1	*	*	*
Wine	1	1	1 to 160	1	1	1	1	*	1	1	1	1	*
Xylene	3	NR	*	NR	*	*	NR	*	NR	*	NR	*	*
Zinc Chloride	1	1	*	1	1	1	1	1	1	1	1	1	*
Zinc Cyanide	*	*	*	1	1	1	*	*	1	1	*	*	*
Zinc Molten	NR	NR	NR	NR	*	*	NR	*	NR	*	NR	*	*
Zinc Nitrate	*	*	*	1	1	1	1	1	1	1	1	1	*
Zinc Stearate	*	*	*	1	*	*	*	*	1	2	*	*	*
Zinc Sulfate	1	*	*	1	1	1	1	1	1	1	1	1	1

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