Table A-2 General chemical resistance of various gasket materials (continued)

	General Purpose—Non-Oil Resistant		General Purpose—Oil Resistant	
Fluid Resistance Key	SBR BR	EPM EPDM	NBR	CR
Steam under 300°F	N	R	N	N
Stearic acid	C	C	C	C
Stoddard solvent	N	N	R	N
Styrene	N	N	N	N
Sucrose solution	R	R	R	R
Sulfite liquors	C	C	C	C
Sulfur	N	R	N	R
Sulfur chloride	N	N	N	N
Sulfur dioxide	N	R	N	N
Sulfur hexafluoride	R	R	R	R
Sulfur trioxide	N	C	N	N
Sulfuric acid (20% oleum)	N	N	N	N
Sulfuric acid (conc.)	N	C	N	N
Sulfuric acid (dilute)	N	C	N	C
Sulfurous acid	C	C	C	C
Tannic acid	C	R	R	R
Tar, bituminous	N	N	C	N
Tartaric acid	C	C	R	C
Terpincol	N	N	C	N
Tertiary butyl alcohol	C	C	C	C
Tertiary butyl catechol	N	C	N	C
Tertiary butyl mercaptan	N	N	N	N
Tetrabromomethane	N	N	N	—
Tetrabutyl titanate	C	R	C	R
Tetrachloroethylene	N	N	N	—
Tetraethyl lead	N	N	C	N
Tetrahydrofuran	N	C	—	—
Tetralin	N	N	N	N
Thionyl chloride	N	N	—	N
Titanium tetrachloride	N	N	N	N
Toluene	N	N	N	N
Toluene diisocyanate	N	R	—	N
Transformer oil	N	N	R	C
Transmission fluid type A	N	N	R	C
Tributoxy ethyl phosphate	C	R	N	N
Tributyl mercaptan	N	N	N	N
Tributyl phosphate	N	R	N	N
Trichloroacetic acid	C	C	C	C
Trichloroethane	N	N	N	N
Trichloroethylene	N	N	N	N
Tricresyl phosphate	N	R	N	N

(continued on next page)

Table A-2 General chemical resistance of various gasket materials (continued)

	General Purpose – Non-Oil Resistant		General Purpose – Oil Resistant	
Fluid Resistance Key	SBR BR	EPM EPDM	NBR	CR
Acetaldehyde	N	R	N	N
Acetamide	N	R	R	C
Acetic acid, 30%	C	R	C	R
Acetic acid, glacial	N	R	N	N
Acetic anhydride	C	C	N	R
Acetone	C	R	N	C
Acetophenone	N	R	N	N
Acetyl chloride	—	—	—	N
Acetylene	C	R	C	C
Acrylonitrile	N	N	N	N
Adipic acid	—	—	R	—
Alkazene	—	N	—	N
Alum-NH_3-Cr-K	R	R	R	R
Aluminum acetate	C	R	C	C
Aluminum chloride	N	R	R	R
Aluminum fluoride	R	R	R	R
Aluminum nitrate	R	R	R	R
Aluminum phosphate	R	R	R	R
Aluminum sulfate	C	R	R	R
Ammonia anhydrous	—	R	R	R
Ammonia gas (cold)	R	R	R	R
Ammonia gas (hot)	—	C	—	C
Ammonium carbonate	R	R	N	R
Ammonium chloride	R	R	R	R
Ammonium hydroxide	N	R	N	R
Ammonium nitrate	R	R	R	C
Ammonium nitrite	R	R	R	R
Ammonium persulfate	N	R	N	R
Ammonium phosphate	R	R	R	R
Ammonium sulfate	C	R	R	R
Amyl acetate	N	R	N	N
Amyl alcohol	C	R	C	R
Amyl borate	N	N	R	R
Amyl chloronaphthalene	N	N	—	N
Amyl naphthalene	N	N	N	N
Aniline	N	C	N	N
Aniline dyes	C	C	N	C
Aniline hydrochloride	N	C	C	N
Animal fats	N	C	R	C
Ansul ether	N	N	N	N
Aqua regia	N	N	—	N

(continued on next page)

Table A-2 General chemical resistance of various gasket materials (continued)

	General Purpose—Non-Oil Resistant		General Purpose—Oil Resistant	
Fluid Resistance Key	SBR BR	EPM EPDM	NBR	CR
Arochlor(s)	N	N	N	N
Arsenic acid	R	R	R	R
Arsenic trichloride	—	—	R	R
Askarel	N	N	C	N
Asphalt	N	—	C	N
Barium chloride	R	R	R	R
Barium hydroxide	R	R	R	R
Barium sulfate	R	R	R	R
Barium sulfide	C	R	R	R
Beer	R	R	R	R
Beet sugar liquors	R	R	R	R
Benzaldehyde	N	R	N	N
Benzene	N	N	N	N
Benzenesulfonic acid	—	—	—	R
Benzoic acid	—	—	—	—
Benzyl alcohol	—	C	N	R
Benzyl aenzoate	—	C	—	—
Benzyl chloride	—	—	N	N
Blast furnace gas	N	—	N	N
Bleach solutions	N	R	—	N
Borax C	R	C	R	—
Bordeaux mixture	C	R	—	R
Boric acid	R	R	R	R
Brine	R	R	R	—
Bromine anhydrous	—	—	—	N
Bromine trifluoride	N	N	N	N
Bromine water	—	—	—	C
Bromobenzene	N	N	N	N
Bunker oil	—	—	R	—
Butadiene	N	N	N	C
Butane	N	N	R	R
Butter	N	R	R	C
Butyl acetate	—	C	—	N
Butyl acetyl ricinoleate	—	R	—	C
Butyl acrylate	N	N	—	—
Butyl alcohol	R	C	R	R
Butyl amine	N	N	N	N
Butyl benzoate	—	R	—	N
Butyl carbitol	—	R	R	C
Butyl cellosolve	—	R	N	C
Butyl oleate	N	C	—	N

(continued on next page)

Table A-2 General chemical resistance of various gasket materials (continued)

	General Purpose – Non-Oil Resistant		General Purpose – Oil Resistant	
Fluid Resistance Key	SBR BR	EPM EPDM	NBR	CR
Butyl stearate	N	C	C	—
Butylene	N	N	C	N
Butyraldehyde	N	C	N	N
Calcium acetate	—	R	C	C
Calcium bisulfite	N	N	R	R
Calcium chloride	R	R	R	R
Calcium hydroxide	R	R	R	R
Calcium hypochlorite	N	R	N	N
Calcium nitrate	R	R	R	R
Calcium sulfide	C	R	C	R
Cane sugar liquors	R	R	R	R
Carbamate	N	C	N	C
Carbitol	C	C	C	C
Carbolic acid	N	C	N	N
Carbon bisulfide	—	N	N	N
Carbon dioxide	C	C	R	C
Carbon monoxide	C	R	R	R
Carbon tetrachloride	N	N	N	N
Carbonic acid	C	R	R	R
Castor oil	R	C	R	R
Cellosolve	N	C	—	—
Cellosolve acetate	N	C	N	—
Cellulube	—	R	N	N
Chlorine (Dry)	N	—	—	N
Chlorine (Wet)	N	N	—	N
Chlorine dioxide	—	N	N	N
Chlorine trifluoride	N	N	N	N
1-chloro 1-nitro ethane	N	N	N	N
Chloroacetic acid	—	C	—	—
Chloroacetone	—	R	N	C
Chlorobenzene	N	N	N	N
Chlorobromomethane	N	C	—	N
Chlorobutadiene	N	N	N	N
Chlorododecane	N	N	N	N
Chloroform	N	N	N	N
0-Chloronaphthalene	N	N	N	N
Chlorosulfonic acid	N	N	N	N
Chlorotoluene	N	N	N	N
Chrome plating solutions	N	N	N	N
Chromic acid	N	N	N	N
Citric acid	R	R	R	R

(continued on next page)

Table A-2 General chemical resistance of various gasket materials (continued)

	General Purpose—Non-Oil Resistant		General Purpose—Oil Resistant	
Fluid Resistance Key	SBR BR	EPM EPDM	NBR	CR
Cobalt chloride	R	R	R	R
Coconut oil	N	R	R	C
Cod liver oil	N	R	R	C
Coke oven gas	N	—	—	—
Copper acetate	—	R	C	C
Copper chloride	R	R	R	R
Copper cyanide	R	R	R	R
Copper sulfate	C	R	R	R
Corn oil	N	N	R	C
Cottonseed oil	N	R	R	C
Creosote	N	N	C	N
Cresol	N	N	N	N
Cresylic acid	N	N	N	N
Cumene	—	—	—	N
Cyclohexane	N	N	R	N
Cyclohexanol	N	N	C	R
Cyclohexanone	—	C	N	N
p-cymene	—	—	—	N
Decalin	N	—	—	N
Decane	N	—	C	N
Denatured alcohol	R	R	R	R
Detergent solutions	C	R	R	R
Developing fluids	C	C	R	R
Diacetone	—	R	—	—
Diacetone alcohol	N	R	N	R
Dibenzyl ether	N	C	N	C
Dibenzyl sebecate	—	C	—	N
Dibutyl amine	N	N	N	N
Dibutyl ether	N	N	N	N
Dibutyl phthalate	N	R	N	N
Dibutyl sebecate	N	C	N	N
o-dichlorobenzene	N	N	N	N
Dichloro-isopropyl ether	N	N	N	N
Didaclohexylamine	N	—	N	—
Diesel oil	N	N	R	C
Diethlamine	C	C	N	N
Diethyl benezene	N	N	N	N
Diethyl ether	N	N	N	N
Diethyl sebecate	—	C	N	N
Diethylene glycol	R	R	R	R
Diisobutylene	—	—	C	N

(continued on next page)

Table A-2 General chemical resistance of various gasket materials (continued)

	General Purpose – Non-Oil Resistant		General Purpose – Oil Resistant	
Fluid Resistance Key	SBR BR	EPM EPDM	NBR	CR
Diisopropyl benzene	N	N	N	N
Diisopropyl ketone	—	R	N	N
Dimethyl aniline	N	C	—	N
Dimethyl formamide	—	—	C	N
Dimethyl phthalate	N	C	N	N
Dinitrotoluene	N	N	N	N
Dioctyl phthalate	—	C	—	N
Dioctyl sebecate	N	C	N	N
Dioxane	—	C	—	—
Dioxolane	N	C	N	—
Dipentene	—	—	C	—
Diphenyl	—	—	—	—
Diphenyl oxides	—	R	—	—
Dowtherm oil	N	N	—	N
Dry cleaning fluids	N	N	N	N
Epichlorohydrin	N	C	—	—
Ethane	N	N	R	C
Ethanolamine	C	C	C	C
Ethyl acetate	N	C	N	N
Ethyl acetoacetate	N	C	N	N
Ethyl acrylate	—	C	—	—
Ethyl alcohol	R	R	R	R
Ethyl benzene	N	N	N	N
Ethyl benzoate	—	C	—	—
Ethyl cellosolve	—	C	—	—
Ethyl cellulose	C	C	—	C
Ethyl chloride	C	R	R	C
Ethyl chlorocarbonate	N	—	—	N
Ethyl chloroformate	—	—	—	N
Ethyl ether	—	N	N	N
Ethyl formate	N	C	N	C
Ethyl mercaptan	N	N	N	—
Ethyl oxalate	R	R	N	N
Ethyl pentochlorobenzene	N	N	N	N
Ethyl silicate	C	R	R	R
Ethylene	—	—	R	—
Ethylene chloride	—	N	—	—
Ethylene chlorohydrin	C	—	N	C
Ethylene diamine	C	R	R	R
Ethylene dichloride	N	N	N	N
Ethylene glycol	R	R	R	R

(continued on next page)

Table A-2 General chemical resistance of various gasket materials (continued)

	General Purpose—Non-Oil Resistant		General Purpose—Oil Resistant	
Fluid Resistance Key	SBR BR	EPM EPDM	NBR	CR
Ethylene oxide	—	N	N	N
Ethylene trichloride	—	N	N	N
Fatty acids	N	N	C	C
Ferric chloride	R	R	R	R
Ferric nitrate	R	R	R	R
Ferric sulfate	R	R	R	R
Fish oil	—	—	R	—
Fluorinated cyclic ethers	—	R	—	—
Fluorine (liquid)	—	N	—	—
Fluorobenzene	N	N	N	N
Fluoroboric acid	R	R	R	R
Fluorocarbon oils	—	R	—	—
Fluorolube	N	R	R	R
Fluosilicic acid	—	—	R	R
Formaldehyde	—	R	C	R
Formic acid	R	R	C	R
Freon 11	N	N	R	C
Freon 12	R	C	R	R
Freon 13	R	R	R	R
Freon 13B1	R	R	R	R
Freon 21	N	N	C	—
Freon 22	R	R	N	R
Freon 31	C	R	N	R
Freon 32	R	R	R	R
Freon 112	—	N	C	C
Freon 113	C	N	R	R
Freon 114	R	R	R	R
Freon 114B2	N	N	C	R
Freon 115	R	R	R	R
Freon 142b	R	R	R	R
Freon 152a	R	R	R	R
Freon 218	R	R	R	R
Freon 502	R	—	C	R
Freon BF	N	—	C	C
Freon C316	R	R	R	R
Freon C318	R	R	R	R
Freon MF	C	—	R	N
Freon TA	R	R	R	R
Freon TC	C	C	R	R
Freon TF	C	N	R	R
Freon TMC	N	C	C	C

(continued on next page)

Table A-2 General chemical resistance of various gasket materials (continued)

	General Purpose – Non-Oil Resistant		General Purpose – Oil Resistant	
Fluid Resistance Key	SBR BR	EPM EPDM	NBR	CR
Freon T-P35	R	R	R	R
Freon T-WD602	C	C	C	C
Fuel oil	N	N	R	C
Fufural	N	C	N	C
Fumaric acid	R	—	R	C
Furan, furfuran	N	N	N	N
Gallic acid	C	C	C	C
Gasoline	N	N	R	C
Gelatin	R	R	R	R
Glauber's salt	N	C	—	—
Glucose	R	R	R	R
Glue	R	R	R	R
Glycerin	R	R	R	—
Glycols	R	R	R	R
Green sulfate liquor	C	R	C	C
Halowax oil	N	N	N	N
n-hexaldehyde	N	R	N	R
Hexane	N	N	R	C
n-hexene-1	N	N	C	C
Hexyl alcohol	R	N	R	C
Hydraulic oil (petroleum)	N	N	R	C
Hydrazine	—	R	C	C
Hydrazine (ODMH)	—	—	—	—
Hydrobromic acid	N	R	N	R
Hydrochloric acid (cold) 37%	C	R	C	C
Hydrochloric acid (hot) 37%	N	N	N	N
Hydrocyanic acid	C	R	C	C
Hydrofluoric acid–Anhydrous	N	C	—	—
Hydrofluoric acid (conc.) cold	N	C	N	C
Hydrofluoric acid (conc.) hot	N	N	N	N
Hydrofluosilicic acid	C	R	C	N
Hydrogen gas	C	R	R	R
Hydrogen peroxide (90%)	N	N	N	—
Hydrogen sulfide (wet, cold)	N	R	N	R
Hydrogen sulfide (wet, hot)	N	R	N	C
Hydroquinone	C	—	N	—
Hypochlorous acid	C	C	N	—
Iodine pentafluoride	N	N	N	N
Iodoform	R	—	—	—
Isobutyl alcohol	C	R	C	R
Isooctane	N	N	R	C

(continued on next page)

Table A-2 General chemical resistance of various gasket materials (continued)

	General Purpose—Non-Oil Resistant		General Purpose—Oil Resistant	
Fluid Resistance Key	SBR BR	EPM EPDM	NBR	CR
Isophorone	—	R	N	—
Isopropyl acetate	—	R	N	N
Isopropyl alcohol	C	R	C	R
Isopropyl chloride	N	N	N	—
Isopropyl ether	N	N	C	C
Kerosene	N	N	R	N
Lacquer solvents	N	N	N	N
Lacquers	N	N	N	N
Lactic acid	R	R	R	R
Lard	N	N	R	N
Lavender oil	N	N	C	N
Lead acetate	—	R	C	C
Lead nitrate	R	R	R	R
Lead sulfamate	C	R	C	R
Lime bleach	R	R	R	C
Lime sulfur	N	R	N	R
Lindol	—	R	—	N
Linoleic acid	—	N	C	N
Linseed oil	N	C	R	C
Liquefied petroleum gas	N	N	R	C
Lubricating oils (petroleum)	N	N	R	C
Lye	C	R	C	C
Magnesium chloride	R	R	R	R
Magnesium hydroxide	C	R	C	R
Magnesium sulfate	C	R	R	R
Maleic acid	C	N	—	—
Maleic anhydride	C	N	—	—
Malic acid	C	N	R	C
Mercuric chloride	R	R	R	R
Mercury	R	R	R	R
Mesityl oxide	N	C	N	N
Methane	N	N	R	C
Methyl acetate	N	C	N	C
Methyl acrylate	N	C	N	C
Methyl alcohol	R	R	R	R
Methyl bromide	—	—	C	N
Methyl butyl ketone	N	R	N	N
Methyl cellosolve	N	C	—	C
Methyl chloride	N	N	N	N
Methyl cyclopentane	N	N	—	N
Methyl ethyl ketone	N	R	N	N

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Table A-2 General chemical resistance of various gasket materials (continued)

	General Purpose –Non-Oil Resistant		General Purpose –Oil Resistant	
Fluid Resistance Key	SBR BR	EPM EPDM	NBR	CR
Methyl formate	N	C	N	C
Methyl isobutyl ketone	N	N	N	N
Methyl methacrylate	N	N	N	N
Methyl oleate	N	C	N	N
Methyl salicylate	—	C	—	N
Methylacrylic acid	N	C	—	C
Methylene chloride	N	N	N	N
Milk	R	R	R	R
Mineral oil	N	N	R	C
Monochlorobenzene	N	N	N	N
Monoethanolamine	C	C	N	N
Monomethyl aniline	N	—	N	N
Monomethylether	C	R	R	R
Monovinyl acetylene	C	R	R	C
Mustard gas	—	R	—	R
Naphtha	N	N	N	N
Naphthalene	N	N	N	N
Naphthenic acid	N	N	C	—
Natural gas	N	N	R	R
Neatsfoot oil	N	C	R	—
Neville acid	N	C	N	N
Nickel acetate	—	R	C	C
Nickel chloride	R	R	R	R
Nickel sulfate	C	R	R	R
Niter cake	R	R	R	R
Nitric acid-conc.	N	N	N	N
Nitric acid-dilute	N	C	N	R
Nitric acid-red fuming	N	N	N	N
Nitrobenzene	N	N	N	N
Nitrobenzine	—	N	—	N
Nitroethane	C	C	N	N
Nitrogen	R	R	R	R
Nitrogen tetroxide	N	N	N	N
Nitromethane	C	C	N	N
Octachlorotoluene	N	N	N	N
Octadecane	N	N	R	C
n-octane	N	N	—	—
Octyl alcohol	C	R	C	R
o-dichlorobenzene	—	—	N	N
Oleic acid	N	C	N	N
Oleum spirits	—	—	C	N

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Table A-2 General chemical resistance of various gasket materials (continued)

	General Purpose—Non-Oil Resistant		General Purpose—Oil Resistant	
Fluid Resistance Key	SBR BR	EPM EPDM	NBR	CR
Olive oil	N	C	R	C
Oxalic acid	C	R	C	C
Oxygen-200-400°F	N	N	N	N
Oxygen-cold	C	R	C	C
Ozone	N	R	N	C
Paint thinner, duco	N	N	—	—
Palmitic acid	C	C	R	C
Peanut oil	N	N	R	C
Perchloric acid	—	C	—	R
Perchloroethylene	N	N	N	N
Petroleum-above 250	N	N	N	N
Petroleum-below 250	N	N	R	C
Phenol	—	C	—	N
Phenyl ethyl ether	N	N	N	N
Phenyl hydrazine	C	N	N	N
Phenylbenzene	N	N	N	N
Phorone	—	C	—	—
Phosphoric acid-20%	N	R	C	C
Phosphoric acid-45%	N	C	N	C
Phosphorous trichloride	N	R	N	N
Pickling solution	—	N	—	—
Picric acid	C	C	C	R
Pine oil	N	N	C	N
Pinene	N	N	C	C
Piperidine	N	N	N	N
Plating solution-chrome	N	R	—	—
Plating solution-others	—	R	R	—
Polyvinyl acetate emulsion	—	R	—	C
Potassium acetate	—	R	C	C
Potassium chloride	R	R	R	R
Potassium cupro cyanide	R	R	R	R
Potassium cyanide	R	R	R	R
Potassium dichromate	C	R	R	R
Potassium hydroxide	C	R	C	R
Potassium nitrate	R	R	R	R
Potassium sulfate	C	R	R	R
Producer gas	N	N	R	C
Propane	N	N	R	R
Propyl acetate	N	C	N	N
n-propyl acetate	N	R	N	—
Propyl alcohol	R	R	R	R

(continued on next page)

Table A-2 General chemical resistance of various gasket materials (continued)

	General Purpose – Non-Oil Resistant		General Purpose – Oil Resistant	
Fluid Resistance Key	SBR BR	EPM EPDM	NBR	CR
Propyl nitrate	—	C	—	—
Propylene	N	N	N	N
Propylene oxide	—	C	—	N
Pydrauls	N	C	N	N
Pyranol	N	N	R	N
Pyridine	N	C	N	N
Pyroligneous acid	—	C	—	C
Pyrrole	N	N	N	N
Radiation	C	C	C	C
Rapeseed oil	N	R	C	C
Red oil	N	N	R	C
Sal ammoniac	R	R	R	R
Salicylic acid	C	R	R	—
Salt water	R	R	R	R
Silicate esters	N	N	C	R
Silicone greases	R	R	R	R
Silicone oils	R	R	R	R
Silver nitrate	R	R	C	R
Skydrol 500	N	R	N	N
Skydrol 7000	N	R	N	N
Soap solutions	C	R	R	R
Soda ash	R	R	R	R
Sodium acetate	N	R	C	C
Sodium bicarbonate	R	R	R	R
Sodium bisulfite	C	R	R	R
Sodium borate	R	R	R	R
Sodium chloride	R	R	R	R
Sodium cyanide	R	R	R	R
Sodium hydroxide	R	R	C	R
Sodium hypochlorite	N	C	C	C
Sodium metaphosphate	R	R	R	C
Sodium nitrate	C	R	C	R
Sodium perborate	C	R	C	C
Sodium peroxide	C	R	C	C
Sodium phosphate	R	R	R	R
Sodium silicate	R	R	R	R
Sodium sulfate	C	R	R	R
Sodium thiosulfate	C	R	C	R
Soybean oil	N	N	R	C
Stannic(ous) chloride	R	C	R	R
Steam over 300°F	N	C	N	N

(continued on next page)

Table A-2 General chemical resistance of various gasket materials (continued)

	General Purpose –Non-Oil Resistant		General Purpose –Oil Resistant	
Fluid Resistance Key	SBR BR	EPM EPDM	NBR	CR
Triethanol amine	C	C	N	R
Triethyl aluminum	—	—	—	—
Triethyl borane	—	—	—	—
Trinitrotoluene	N	N	N	C
Triocetin	N	R	C	C
Trioctyl phosphate	N	R	N	N
Trioryl phosphate	N	R	N	N
Tung oil	N	N	R	C
Turbine oil	N	N	C	C
Turpentine	N	N	R	N
Unsymmetrical dimethyl	—	R	C	C
Varnish	N	N	C	N
Vegetable oils	N	R	R	C
Versilube	R	R	R	R
Vinegar	C	R	C	R
Vinyl chloride	—	C	—	N
Wagner 21B fluid	R	R	N	R
Water	R	R	R	R
Whiskey, wines	R	R	R	R
White oil	N	N	R	C
White pine oil	N	N	C	N
Wood oil	N	N	R	C
Xylene	N	N	N	N
Xylidenes	N	N	N	N
Zeolites	R	R	R	R
Zinc acetate	N	R	C	C
Zinc chloride	R	R	R	R
Zinc sulfate	C	R	R	R

Source: The Los Angeles Rubber Group, Inc. Adapted from 1970 Yearbook and Directory.

Notes: N = not resistant
R = generally resistant
C = less resistant than R, but still suitable for some conditions

This table is provided to aid the designer in decisions as to transporting/conveyance of undiluted chemicals. A –indicates insufficient test data to provide a rating.

Chemical resistance data are provided as a guide only. Information is based primarily on immersion of unstressed strips in chemicals and to a lesser degree on field experience.