



# CHEMICAL RESISTANCE LIST

The data given in these tables is only general information based on our own experience. The chemical resistance can be influenced by additional factors, such as a higher concentration or temperature, a higher pressure, climatic conditions, duration of exposure to mechanical loading, and, in particular, when mixed with other media. Therefore, these tables cannot be applied to all operating conditions. A legally binding assurance of certain properties or the suitability for a particular application cannot be derived from this information. For this reason, we exclude a guarantee or liability for the data published here. The data on the resistance to foods is for information purposes only and is independent of any legislation pertaining to foodstuffs. Unless otherwise stated, the data are based on a temperature of 20°C and at typical concentrations.

## Abbreviations:

<b>SBR</b>	Styrene-butadiene rubber / example: Buna S
<b>EPDM</b>	Ethylene-propylene-diene rubber / example: Buna AP
<b>NBR</b>	Acrylonitrile-butadiene rubber / example: Perbunan N, Buna N
<b>NBR/PVCr</b>	Mixture/blend of NBR and PVC
<b>PUR</b>	Polyurethane -> here: Ether polyurethane
<b>PVC</b>	Polyvinyl chloride

## Rating:

- 1 = excellent resistance
- 2 = good resistance
- 3 = moderate resistance
- x = not resistant
- = not tested / no practical experience

Medium	SBR	EPDM	NBR	NBR/PVC	PUR	PVC
Waste gases (containing hydrogen fluoride)	1	1	1	-	-	-
Waste gases (containing carbon dioxide)	1	1	1	-	-	-
Waste gases (containing carbon monoxide)	1	1	1	-	-	-
Waste gases (containing hydrochloric acid)	1	1	2-3	-	-	-
Waste gases (containing sulfur dioxide)	2-3	1	2-3	-	-	-
Waste gases (containing sulfuric acid)	2-3	1	x	-	-	-
Wastewater	1	1	1	1	x	1
Acetal	-	-	-	-	-	-
Acetaldehyde (ethanal), liq	x	2	x	x	2	x
Acetamide	x	1	x	x	x	x
Acetone	2	1	x	x	x	3
Acetophenone	x	1	x	-	-	-
Acetyl acetone (pentandione)	x	1	x	x	x	x
Acetyl chloride (ethanoyl chloride)	x	x	x	x	x	-



Medium	SBR	EPDM	NBR	NBR/PVC	PUR	PVC
Acetylene, gas	1	1	1	1	x	1
Acetylene dichloride	-	-	-	-	-	-
Acetylene tetrachloride (tetrachloroethane)	x	x	x	-	-	-
Acrylonitrile	x	x	x	-	x	2-3
Acrylic acid, ethyl ester (ethyl acrylate)	x	x	x	x	x	x
Adipic acid (hexanedioic acid)	1	1	1	1	1-3	1
Adipic acid, diethyl ester	1	x	x	x		x
Essential oils	x	x	x	x	2	x
Battery acid (hydrosulfuric acid 30%)	2-3	1	x	-	2	1
Alum (potassium aluminium sulfate)	2-3	1	2-3	-	1	1
Aliphatics (see gasoline & homologues)	-	-	-	-	2	3
Alcohols (see exact names)	-	-	-	-	2	1-2
Allyl alcohol (propenol)	1	1	2-3	-	3	3
Allyl chloride (3-chloropropene)	x	x	x	3	x	x
Aluminium acetate, liq.	2-3	1	2-3	2	3	1
Aluminium chloride, liq.	1	1	1	1	1-2	1
Aluminium fluoride	1	1	1	1	3	1
Aluminium hydroxide	1	1	1	1	2	1
Aluminium nitrate, liq.	1	1	1	-	2	2
Aluminium phosphate, liq.	-	-	-	-	1	1
Aluminium sulfate, liq.	2-3	1	1	1	2	1
Formic acid (methanoic acid), 10%	2-3	2-3	x	-	2	1-2
Formic acid (methanoic acid), 100%	2-3	2-3	x	-	x	2-3
Formic acid (methanoic acid), 3%	2-3	2-3	x	-	1	1
Amines (see the exact names)						
Aminobenzene (see aniline)						
Ammonia, gas	2-3	1	2-3	-	3	1
Ammonia, liq. (aqueous ammonium hydroxide), 25%	x	-		-	x	1
Ammonia, liq., 100%	x	1	2-3	-	x	3
Ammonium acetate, liq.	1	1	x	1	x	1
Ammonium carbonate, liq.	1	1	2-3	x	x	1
Ammonium chloride, liq. (sal ammoniac), 3%	2-3	1	1	1	1	1
Ammonium diphosphate, liq.	-	-	2-3	-	1	1
Ammonium fluoride, liq.	1	1	2	-	x	1-3
Ammonium hydroxide, liq. (ammonia solution)	x	1	-	2	x	1
Ammonium metaphosphate	-	-	1	-	1	1
Ammonium nitrate, liq.	1	1	x	1	2	2
Ammonium nitrite	1	1	-	1	1	-
Ammonium persulfate, liq.	-	-	2	-	2	1
Ammonium phosphate, liq.	1	1	1	1	1	1
Ammonium sulfate	2-3	1	-	1	1	1
Ammonium thiocyanate	1	1	1	1	2	1
Amyl acetate (pentyl acetate, banana oil)	x	2-3	1	x	x	x
Amyl alcohol (pentanol)	2-3	2-3	1	2	3	1
Amyl borate	x	x	x	-	x	-
Amyl chloride	x	x	2-3	x	x	x



Medium	SBR	EPDM	NBR	NBR/PVC	PUR	PVC
Aniline (aminobenzene, phenylamine)	x	x	1	x	x	2-3
Aniline chlorohydrate	x	2-3	-	x	x	x
Aniline dyes	-	-	x	-	x	1
Aniseed oil	x	x	x	x	-	x
Anol (cyclohexanol)	x	x	x	-	x	x
Anone (cyclohexanone)	x	x	1	x	x	x
Anthraquinone sulfonic acid, liq.	-	-	x	-	x	1
Antichlor (sodium thiosulfate)	2-3	1	x	-	2	1
Antimony chloride (50%)	1	1	x	-	2	1
Antimony chloride, anhydrous	1	1	2-3	1	x	1
Malic acid (hydroxysuccinic acid, apple juice)	2-3	2-3	-	1	3	1
Arctone (see Freon grades)	1	1	2-3	-	3	3
Argon, gas	x	x	x	3	x	x
Aromatics - as a general rule	2-3	1	2-3	2	3	1
Arsenous acid	1	1	1	1	1-2	1
Aromatics (see benzene, toluene, xylene and homologues)	1	1	1	-	2	2
Arsenic acid	1	1	1	1	3	1
Ascorbic acid (vitamin C)	-	-	-	-	-	1
Asphalt (pitch)	x	x	2-3	2	2	2
ASTM fuel No. 1 (A)	x	x	1	-	1	3-x
ASTM fuel No. 2 (B)	x	x	2-3	-	x	3-x
ASTM fuel No. 3 (C)	x	x	2-3	-	x	3-x
ASTM oil No. 1	x	x	1	-	1	-
ASTM oil No. 2 (20°C)	x	x	1	-	2	2
ASTM oil No. 3	x	x	2-3	-	3	-
ASTM oil No. 4	x	x	2-3	-	-	-
ATE brake fluid	1	1	x	-	3	2
Ethane, gas	x	x	1	-	-	-
Ethanal (acetaldehyde)	x	2-3	x	-	-	-
Ethyl alcohol (see ethanol)	2-3	1	2-3	-	-	-
Aminoethanol (see ethanolamine)	x	1	x	-	-	-
Ether	x	x	x	-	2	3
Ethyl acetate	x	2-3	x	-	-	-
Ethyl acrylate	x	x	x	-	-	-
Ethyl alcohol (see ethanol)	2-3	1	2-3	-	-	-
Ethyl ether	-	x	x			
Ethyl benzoate	x					
Ethylbenzene	x					
Bromoethane (see ethyl bromide)	x					
Chloroethane (see ethyl chloride)	x					
Chloroethylene (see ethylene chloride)	2-3					
Diaminoethylene (see ethylene diamine)	x					
Ethylene dichloride	2-3					
Ethylene glycol	x					



Medium	SBR	EPDM	NBR	NBR/PVC	PUR	PVC
Ethylene oxide	x	x	x	-	-	-
ATS brake fluid	-	-	-	-	x	1
Caustic potash (see potassium hydroxide)	2-3	1	2-3	-	-	-
Caustic lime (calcium hydroxide)	-	-	-	-	2	2
Caustic soda (see sodium hydroxide)	2-3	1	2-3	-	-	-
Baking powder (sodium bicarbonate )	-	-	-	-	2	1
Barium chloride, liq.	1	1	1	1	1	1
Barium hydroxide	1	1	1	1	1	1
Barium sulfate (barite)	1	1	1	1	1	1
Barium sulfide	2-3	1	1	1	2	1
Cottonseed oil	x	2-3	1	1	1	1-2
Pickling solution (20% nitric acid, 4% HF)	-	-	-	-	x	-
Benzaldehyde	x	x	x	-	3	3
Benzene	x	x	x	x	3	3-x
Gasolines, general (see the exact medium)	x	x	2-3	-	1	x
Gasoline, ASTM fuel No. 1 (A)	x	x	1	1	1	3-x
Gasoline, ASTM fuel No. 2 (B)	x	x	2-3	1	x	3-x
Gasoline, ASTM fuel No. 3 (C)	x	x	2-3	2	x	3-x
Gasoline, diesel, fuel oil	x	x	2-3	1	x	3-x
Gasoline, low aromatic fraction	x	x	2-3	-	2	3
Gasoline, high aromatic fraction (solvent: naphtha)	x	x	-	-	2-3	2-3
Gasoline, aviation (kerosene)	x	x	2-3	1	1-2	3
Gasoline, paint thinner, white spirit, turpentine substitute	x	x	2-3	-	1-2	3
Gasoline/benzene (50/50)	x	x	x	x	3	3
Gasoline/benzene (60/40)	x	x	x	-	2	3
Gasoline/benzene (70/30)	x	x	2-3	-	2	3
Gasoline/benzene (80/20)	x	x	2-3	-	3	3
Gasoline/benzene/ethanol (50/30/20)	x	x	x	x	3	3
Benzoic acid, liq.	2-3	2-3	2-3	3	x	1
Benzene	x	x	x	-	3	3-x
Benzyl alcohol	x	2-3	x	x	x	3
Benzyl benzoate	-	-	3	x	x	-
Benzyl chloride	x	x	x	x	x	x
Azurite (copper hydroxide)	-	-	-	-	1	-
Succinic acid (butanedioic acid, amber acid )	1	1	1	1	3	1
Radiation, radioactive: as a general rule	-	-	-	-	3	x
Weathering	-	-	-	-	1	1
Beer	1	1	1	1	1	1
Biogas (marsh gas)	-	-	-	-	1	1
Biphenyls, polychlorinated (pyranols; oils, transformer oils)	-	-	-	-	2	3
Bismuth carbonate	1	1	1	1	1	1
Bisulfite solution containing SO2	1	1	x	-	-	1
Bitter salt (magnesium sulfate)	-	-	-	-	1	1
Bitumen 20°C (see hot bitumen)	x	x	x	x	2	x
Blancfix (barium sulfate)	1	1	1	1	1	1
Prussic acid 20% (hydrocyanic acid)						



Medium	SBR	EPDM	NBR	NBR/PVC	PUR	PVC
Prussic acid 98% (conc.)	-	-	-	-	2	1-2
Lead acetate, liq.	2-3	1	1	1	1	1
Lead arsenate, liq.	1	1	1	1	1	1
Bleaching solution (Javelle water, potassium hypochlorite)	x	1	x	-	2	1
Lead nitrate	1	1	1	1	1	1
Lead sulfamate	-	-	-	-	-	-
Lead sulfate	2-3	1	2-3	-	1	1
Blood	-	-	-	-	-	1
Drilling oil (depending on the chem. composition)						
Borax (sodium borate)	1	1	2-3	-	1	1
Boric acid, liq.	1	1	1	1	1	1
Brandy, distilled spirits, all types	1	1	1	1	1	1
Brown coal tar oil (see coaltar)	x	x	2-3	-	3	2-3
Brake fluid, ATE	-	-	-	-	3	2
Brake fluid, ATS	-	-	-	-	x	1
Brake fluid, glycol ether-based	-	-	-	-	x	-
Methylated spirit (denatured ethanol)	-	-	-	-	2	2-3
Bromine	x	x	x	x	x	3
Bromobenzene	x	x	x	x	x	x
Bromine, aqueous	x	x	x	x	x	x
Hydrobromic acid	x	2-3	x	x	3	2-3
Butadiene	x	x	x	x	3	2-3
Butane, gas	x	x	1	-	1-2	3
Butane, liq.	x	x	1	1	1	2
Butandiol (butylene glycols)	1	1	1	-	1	3
Butanol (butyl alcohol)	1	2-3	1	-	3	2-3
Butanone (methyl ethyl ketone, MEK)	x	2-3	x	x	x	x
Butynediol	-	-	-	-	1	-
Butter	x	2-3	1	1	2	2
Buttermilk	2-3	2-3	x	-	1	1
Butyric acid, liq.	x	x	2-3	-	x	1
Butyl acetate	x	2-3	x	x	x	x
Butyl ether	x	x	x	-	3	1
Butylamine	x	x	x	x	2-3	x
Butyl benzoate	x	1	x	x	1	-
Butyl carbitol	-	-	-	-	x	-
Butylene, liq. (butene)	x	x	2-3	-	3	1
Butyl glycol	2-3	2-3	1	-	3	x
Butyl oleate	-	-	-	-	x	-
Butyl phenols	x	x	x	x	x	x
Butyl stearate	x	x	2-3	3	1	1
Butyraldehyde	-	-	-	-	x	-
Calcium acetate	2-3	1	2-3	2	2	-
Calcium bisulfate, liq.	1	1	1	1	1	1
Calcium bisulfite, liq.	2-3	2-3	2-3	x	2	2
Calcium carbonate	1	1	1	1	1	1





Medium	SBR	EPDM	NBR	NBR/PVC	PUR	PVC
Calcium chloride, liq.	1	1	1	1	1	1
Calcium hydroxide, liq. (slaked lime)	1	1	1	1	2	2
Calcium hypochlorite, liq.	x	1	x	2	x	1
Calcium nitrate	1	1	1	1	1	1
Calcium oxide (burnt lime)	1	1	1	1	1	1
Calcium phosphate, liq.	1	1	1	-	2	-
Calcium sulfate, liq. (gypsum)	1	1	1	-	1	1-2
Calcium sulfide	2-3	1	2-3	1	1	-
Calcium sulfite	1	1	1	-	-	-
Camphor (camphor oil)	x	x	1	-	x	-
Carbitol (diethylene glycol monoethyl ether)	2-3	2-3	2-3	2	x	3
Carbolineum, liq.	x	2-3	2-3	-	x	3
Carbolic acid (phenol)	-	-	-	2	3-x	x
Caro's acid (peroxymonosulfuric acid)	-	-	-	-	-	1
Cellulose acetate (acetyl cellulose)	x	2-3	1	-	1	-
Cellulube hydraulic oil	-	-	-	-	x	1
Chlorine, dry	x	2-3	x	x	x	3-x
Chlorine, damp	x	2-3	x	x	x	x
Chloroacetic acid	-	-	-	x	-	-
Chloral hydrate	-	-	-	-	x	x
Chloroamine	1	1	1	-	2	-
Chlorobenzene (monochlorobenzene)	x	x	x	x	x	x
Chlorobromomethane	x	x	x	x	3	x
Chloride of lime (calcium chloride)	1	1	1	1	1	1
Chlorine dioxide	x	x	x	x	x	2-3
Chlorodiphenyl (Clphen)	x	x	x	x	x	x
Chloroacetic acid (monochloroacetic acid)	2-3	2-3	x	-	x	2
Chloroethanol (ethylene chlorohydrin)	2-3	2-3	x	x	x	x
Chloroethane (ethyl chloride)	x	x	x	x	x	3-x
Chlorinated lime (calcium hypochlorite)	x	1	x	-	x	1
Chlorinated hydrocarbons (see exact names)	-	-	-	-	-	x
Chloromethane (methyl chloride)	x	x	x	x	x	x
Chloroform (trichloromethane)	x	x	x	x	x	x
Chloroprene (chlorobutadiene)	x	x	x	x	x	x
Chloroethene (trichloroethane, methyl chloroform)	x	x	x	x	x	3
Chloric acid, liq.	x	2-3	x	-	-	1
Chlorosulfonic acid	x	x	x	x	x	3
Chlorine, aqueous 3%	x	2-3	x	x	3	1
Hydrogen chloride (see also hydrochloric acid)	2-3	1	2-3	-	2	1
Chromic acid 10%	-	-	-	-	3	1
Chromic acid 25%	x	x	x	x	x	2
Chromic acid 50%	x	x	x	x	x	x
Chromium trioxide (see chromic acid)						
Citric acid						
Clphen (chlorodiphenyl)	x	x	x	x	x	x
Cresols	x	x	x	x	x	x



Medium	SBR	EPDM	NBR	NBR/PVC	PUR	PVC
Crotonaldehyde (2-butenal)	2-3	1	1	-	2-3	x
Cumene (isopropylbenzene)	x	x	x	x	3-x	x
Potassium cyanide, liq.	2-3	1	2-3	-	2	1
Hydrocyanic acid (Prussic acid)	2-3	1	2-3	-	2	1-2
Sodium cyanide	1	1	2-3	-	3	1
Cyclohexane (hexahydrobenzene)	x	x	1	1	2	x
Cyclohexanol	x	x	2-3	3	x	x
Cyclohexanone	x	x	x	x	x	x
Cyclohexylamine	x	x	x	-	x	1
Steam up to °C	x	150	x	x	x	x
Decalin (Decahydronaphthalene)	x	x	x	-	1	1
Decane	x	x	2-3	-	-	-
Dextrose (see glucose)	1	1	1	1	1	1
Diacetone alcohol	2-3	1	x	x	2	x
Dibenzyl ether	x	2-3	x	x	2-3	x
Dibutylamine	x	x	x	x	x	-
Dibutyl phthalate	x	2-3	x	x	3	3
Dibutyl sebacate	x	2-3	x	x	x	3
Dichlorobenzenes	x	x	x	x	x	x
Dichloroethylene	x	x	2-3	x	x	x
Dichloroisopropyl ether	x	x	x	x	2	
Dichloromethane (methylene chloride)	x	x	x	x	x	x
Diesel fuel (gas oil)	x	x	1	1	2	3
Diethanolamine	-	2-3	1	-	-	-
Diethylamine	2-3	2-3	1	2	3	x
Diethylbenzene	x	x	x	-	x	1
Diethylene glycol (diglycol)	1	1	2-3	1	3	3
Diethylene glycol monoethyl ether (carbitol)	2-3	2-3	2-3	-	x	3
Diethyl ether (ether)	x	x	x	x	2	3
Diethyl sebacate	x	2-3	x	2	-	-
Diglycolic acid, liq.	1	1	x	-	x	2
Dimethylamine	x	2-3	x	x	-	x
Dimethylaniline (xylydine)	x	2-3	x	x	2-3	x
Dimethyl ether (methyl ether)	x	2-3	x	x	2	x
Dimethylformamide (DMF)	x	2-3	x	2-3	3	x
Dimethyleptanone (diisobutyl ketone)	x	2-3	x	-	x	-
Dimethyl phthalate	x	2-3	x	x	3	-
Dioctyl phthalate (DOP)	x	2	x	3	2	3
Dioctyl sebacate	-	-	-	x	2	-
Dioxan (diethylene dioxide)	x	22-3	x	x	x	x
Dipentene (limonene)	x	x	2-3	2	x	
Diphenyl	x	x	x	x	x	x
Diphenyl oxide (diphenyl ether)	x	x	x	x	x	x
Dipropylene glycol	x	x	2-3	-	-	-
Dodecyl alcohol (lauryl alcohol)	1	1	1	-	-	-
Cod liver oil	-	-	-	-	1	-



Medium	SBR	EPDM	NBR	NBR/PVC	PUR	PVC
DOWTHERM A (glycols)	x	x	x	-	3-x	-
DOWTHERM E (glycols)	x	x	x	-	-	-
Jet fuel DPI-IPS	-	-	-	-	-	1
Fertilising salt, liq.	-	-	-	-	3	1
Javelle water (potassium hypochloride)	x	2-3	2-3	-	2	1
Iron(III) chloride, liq.	1	1	1	1	2	1
Iron sulfate, iron vitriol, liq.	1	1	1	1	2	1
Glacial acetic acid (see acetic acid 100%)	2-3	2-3	x	-	-	-
Developing solution (general)	2-3	2-3	1	1	2	1
Epichlorohydrin, liq.	x	2-3	x	x	x	x
Natural gas, wet	x	x	1	1	1-2	1
Natural gas, dry	x	x	1	1	1	1
Crude oil without additives (at 20°C)	x	x	2-3	-	1	2
Crude oil without additives, up to °C	-	-	-	-	60	x
Vinegar	2-3	1	2-3	2	3	2
Acetic acid 10%	-	-	-	-	x	3
Acetic acid 25%	x	x	x	x	x	x
Acetic acid 50%	x	x	x	x	x	x
Acetic acid 100% conc.	x	x	x	x	x	x
Acetic anhydride 50%	2-3	2-3	x	x	x	x
Ethyl acetate	x	2-3	x	x	x	x
Aluminium acetate	2-3	1	2-3	-	3	1
Ester (see exact name)	-	-	-	-	-	-
Ethane, gas	x	x	1	1	2	1
Ethanol (ethyl alcohol)	2-3	1	2-3	-	2	2-3
Ethanolamine (2-aminoethanol)	x	1	x	2-3	x	3
Ethene (ethylene)	x	-	2-3	1	1	1
Ethers (ethyl ether, diethyl ether)	x	x	x	-	2	3
Essential oils	x	x	x	x	2	x
Ethyl acetate	x	2-3	x	x	x	x
Ethyl acrylate (acrylic acid, ethyl ester)	x	x	x	x	x	x
Ethyl alcohol (denatured = methylated spirit)	2-3	1	2-3	1	2	2-3
Ethylbenzene	x	x	x	x	x	x
Ethyl bromide (bromomethane)	2-3	x	2-3	-	2	x
Ethyl chloride (chloroethane)	x	2-3	x	x	x	3-x
Ethylene, gas (ethene)	x		2-3	1	1	1
Ethylene chlorohydrin (chloroethanol)	2-3	2-3	x	x	x	x
Ethylene chloride (chloroethane)	x	2-3	x	x	x	-
Ethyldiamine	-	-	-	-	x	x
Ethylene glycol (glycol, ethan-1,2-diol)	2-3	1	1	1	2-3	1
Ethylene oxide (1,2-epoxymethane)	x	x	x	x	x	x
Ethyl ether (see Ethers)	x	x	x	-	2	3
Ethyl glycol acetate	-	-	-	-	x	-
Ethyl mercaptan	-	-	-	-	x	-
Fatty alcohols (long-chained, aliphatic alcohols)	2-3	2-3	1	2	2	2
Fats, general (see oils and fats)	-	-	-	-	x	x





Medium	SBR	EPDM	NBR	NBR/PVC	PUR	PVC
Fatty acids, with 1 to 7 C atoms, general	x	x	2-3	2	2-3	1
Fatty acids with > 7 C atoms	x	x	2-3	2	1	1
Liquid petroleum gases (LPG) (see exact name)						
Pine needle oil	x	x	2-3	-	2	x
Varnish	x	x	2-3	-	2	x
Fish liver oil	2-3	2-3	1	1	2	2
Aviation fuel (kerosene)	x	x	2-3	-	1-2	3
Fluorine, liq.	x	x	x	-	x	2-3
Fluorobenzene	x	x	x	-	x	-
Fluoboric acid 65%	2-3	2-3	2-3	1	x	1
Hydrofluosilicic acid, liq.	2-3	1	2-3	-	x	2-3
Hydrofluosilic acid (hydrosilicofluoric acid)	2-3	2-3	2-3	1	x	1
Hydrogen fluoride (see hydrofluoric acid)						
Hydrofluoric acid 10%	x	-	x	-	2	1-2
Hydrofluoric acid 30%	x	-	x	-	2	2
Hydrofluoric acid 75%	x	-	x	-	3	3
Formaldehyde (methanal)	2-3	1	2-3	3	2	2
Formamide	1	2-3	2-3	-	x	2
Photographic emulsion, general (see the exact chemical name)	1	1	1	-	x	x
Freons & frigens, general (depends on the application)						
Freon 11	x	x	1	-	-	-
Freon 12	2-3	2-3	2-3	-	-	-
Freon 13	1	1	1	-	-	-
Freon 1381	1	1	1	-	-	-
Freon 14	1	1	1	-	-	-
Freon 21	x	x	x	x	x	-
Freon 22	1	1	x	-	-	-
Freon 31	2-3	1	x	-	-	-
Freon 32	1	1	1	-	-	-
Freon 112	x	x	2-3	-	-	-
Freon 113	x	x	1	1	2	-
Freon 114	1	1	1	1	1	-
Freon 114 B2	x	x	2-3	-	-	-
Freon 115	1	1	1	-	-	-
Freon 142 b	1	1	1	-	-	-
Freon 152 a	1	1	1	-	-	-
Freon 218	1	1	1	-	-	-
Freon C316	1	1	1	-	-	-
Freon C318	1	1	1	-	-	-
Freon 502	1	1	2-3	-	-	-
Freon BF	x	x	2-3	-	-	-
Freon MF	2-3	x	2-3	-	-	-
Freon PCA	2-3	x	1	-	-	-
Freon TA	1	1	1	-	-	-
Freon TC	2-3	2-3	1	-	-	-
Freon TF	2-3	x	1	-	-	-



Medium	SBR	EPDM	NBR	NBR/PVC	PUR	PVC
Freon TMC	x	2-3	2-3	-	-	-
Freon T-P35	1	1	1	-	-	-
Freon TWD602	2-3	1	2-3	-	-	-
Antifreeze (see exact chemical name)						
Fruit juices	1	1	1	1	1	1
Fumaric acid	2-3	-	1	-	-	-
Furan	x	x	x	-	x	1
Furfural	x	2-3	x	x	3	
Furfuryl alcohol (furfurol)	x	2-3	x		x	1
Gallic acid	2-3	2-3	2-3	2	3	1
Gas oil (diesel fuel)	x	x	1	1	2	3
Gasoline (see Gasolines)						
Gelatine, liq.	1	1	1	1	1	1
Tannic acid (tannin)	2-3	2-3	2-3	-	2	1
Gypsum, liq. (calcium sulfate)	1	1	1	-	1	1-2
Glauber's salt, liq. (sodium sulfate)	2-3	1	2-3	-	1	1
Glucose	1	1	1	1	1	1
Glycerol (propan-1,2,3-triol)	1	1	1	1	1	1
Glycine, liq. 10% (glycocoll, aminoacetic acid)	2-3	1	2-3	-	x	1
Glycols, general (see exact name)	1	1	1	1	2	1
Glycolic acid 30% (hydroxyacetic acid)	1	1	1	1	3-x	1
Pit gas (methane)	x	x	1	-	3	1-2
Manure slurry (liquid manure)	1	1	1	1	1	1
Urine	1	1	1	1	1	1
Urea, liq.	1	1	1	-	x	2
Yeast, liq.	1	1	1	1	1	1
Hot bitumen up to °C	-	-	-	-	x	x
Hot air (see air)						
Hot tar up to °C	-	-	-	-	x	x
Fuel oils	x	x	-	-	2	3
Helium	1	1	1	1	1	1
Heptane	x	1	1	-	2	2-3
Hexaldehyde	x	2-3	x	-	3	-
Hexahydrobenzene (cyclohexane)	x	x	1	-	2	x
Hexalin (cyclohexanol)	x	x	2-3	-	x	x
n-Hexane	x	x	1	1	2	1-2
Hexanol (hexyl alcohol)	2-3	x	1	1	x	2
Hexanetriol	x	1	1	1	x	1
Hexene	x	x	2-3	-	1	-
Tung oil		x		1	2	3
Tee-tree oil	x	x	1	1	x	-
Hydraulic oils (see oils and fats)						
Hydrazines (diamides)	2-3	1	2-3	-	x	1
Hydrazine hydrate, liq.	2-3	1	2-3	-	x	1
Hydroquinone, liq.	2-3	2-3	x	-	x	2
Hydroxylamine sulfate, liq.	1	1	1	1	x	1



Medium	SBR	EPDM	NBR	NBR/PVC	PUR	PVC
Isobutanol (isobutyl alcohol)	2-3	1	2-3	2	x	1
Isooctane	x	x	1	1	2	1
Isooctanol (isooctyl alcohol)	-	-	-	-	3	1
Isophorene	-	-	-	-	3-x	-
Isopropanol (isopropyl alcohol)	2-3	1	2-3	2	3	2
Isopropyl acetate	x	2-3	x	x	3	2
Isopropylbenzene (cumene)	x	x	x	x	3-x	x
Isopropyl chloride	x	x	x	x	3	-
Isopropyl ether	x	x	x	2	2	2-3
Liquid manure (manure slurry)	1	1	1	1	1	1
Javelle water (potassium hypochlorite)	x	2-3	2-3	x	2	1
Iodine/potassium iodide	1	1	2-3	-	-	-
Iodoform (triiodomethane)	-	1	-	-	-	-
Iodine tincture (5-10% solution of iodine in alcohol)	1	2-3	2-3	2-3	x	2-3
Coffee	2-3	2-3	1	-	-	-
Cocoa butter	x	x	x	-	-	-
Potassium hydroxide solution (see potassium hydroxide)	2-3	1	2-3	-	-	-
Salt peter (potassium nitrate)	1	1	1	1	1	1
Potassium acetate, liq.	2-3	1	2-3	-	x	1
Potassium aluminium sulfate (alum)	2-3	1	2-3	-	1	1
Potassium bicarbonate (potassium hydrogen carbonate)	1	1	1	1	2	1
Potassium bichromate (potassium dichromate)	2-3	1	2-3	-	2	1
Potassium bisulfate, liq. (potassium hydrogen sulfate)	1	1	1	-	3-x	-
Potassium borate, liq.	1	1	1	1	1	1
Potassium bromate, liq. 10%	1	1	1	1	x	1
Potassium bromide, liq.	1	1	1	1	1	1
Potassium carbonate (potash)	1	1	1	1	2	1
Potassium chlorate, liq.	2-3	1	x	-	2	1
Potassium chloride, liq. (sylvite)	1	1	1	1	1	1
Potassium chromate, liq. 40%	2-3	1	2-3	-	x	1-2
Potassium cyanide, liq.	2-3	1	2-3	-	2	1
Potassium dichromate, liq.	2-3	1	2-3	-	2	1
Potassiumhydroxide10%(causticpotash,potassiumhydroxidesolution)	2-3	1	2-3	-	2	2
Potassiumhydroxide50%(causticpotash,potassiumhydroxidesolution)	-	-	-	-	3	2-3
Potassium hypochlorite (Javelle water)	x	2-3	2-3	-	2	1
Potassium iodide, liq.	2-3	1	1	-	2	1-2
Potassium nitrate, liq. (salt peter)	1	1	1	1	1	1
Potassium perchlorate, liq.	x	1	x	-	x	1
Potassium permanganate, liq. 10%	2-3	1	x	-	1	1
Potassium peroxydisulfate (potassium persulfate)	2-3	1	x	-	3-x	2
Potassium phosphate (mono- and dibasic)	1	1	1	-	1	-
Potassium sulfate	2-3	1	1	1	1	1
Potassium sulfite	2-3	1	1	1	1	1
Lime, burnt (calcium oxide)	1	1	1	1	1	1
Lime, slaked (calcium hydroxide, liq., lime water/milch)	1	1	1	-	2	2
Limestone (calcium carbonate)	1	1	1	1	1	1



Medium	SBR	EPDM	NBR	NBR/PVC	PUR	PVC
Refrigerants (see Freones), on request						
Calcined soda (sodium carbonate)	1	1	1	1	x	1
Carbolineum, liq.	x	x	x	-	x	3
Carbolic acid (phenol)	x	x	x	x	3-x	x
Kerosene	x	x	2-3	1	2	1
Ketones, general (see exact names)	-	-	-	-	x	x
Hydrosilicofluoric acid, liq.	2-3	2-3	2-3	-	x	1
Silicic acid (silicon dioxide)	1	1	1	1	1	1
Bone oil	x	x	1	-	1	2
Salt (table salt, sodium chloride)	1	1	1	1	2	1
Carbon dioxide, gas, wet and dry	2-3	2-3	1	1	1	1
Carbon dioxide, solid (dry ice -80°C)	-	-	-	-	-	-
Carbon bisulfide (carbon disulfide)	x	x	x	-	2	2-3
Carbon monoxide	2-3	2-3	2-3	1	1	1
Carbonic acid	2-3	1	1	1	1	1
Carbon tetrachloride (tetrachloromethane, tet)	x	x	x	x	3	x
Coconut fat and oil	x	x	1	1	2	1
Aqua regia	x	x	x	-	x	2-3
Corn oil	-	x	-	1	1	2
Fuel (see gasoline)						
Creosote (coaltar)	x	x	2-3	1	3	2-3
Cresols (Methyl phenols)	x	x	x	x	x	x
Copper acetate	x	1	2-3	2	x	-
Copper chloride, liq.	1	1	1	1	1	1
Copper cyanide	1	1	1	1	1	1
Copper fluoride	1	1	2-3	-	x	-
Copper hydroxide (azurite)	-	-	-	-	1	-
Copper nitrate, liq.	1	1	2-3	-	3	2
Copper sulfate, liq. (copper vitriol)	2-3	1	1	1	1	1
Laughing gas (dinitrogen monoxide)	1	2-3	1	1	1	1
Paint thinner (see gasoline)						
Paints (depends on the composition)						
Lanolin (wool fat)	x	x	1	-	1	2
Lyes, general (see exact name)	2-3	1	2-3	-	2	1
Lauryl alcohol (dodecyl alcohol)	2-3	2-3	2-3	-	-	-
Lavender oil	x	x	2-3	2	x	-
Fish liver oil	x	2-3	1	1	1	1
Petroleum ether (benzine)	x	x	1	1	2	
Glue, animal	2-3	2-3	1	1	2	1
Linseed oil	x	x	1	1	2	2
Lamp gas (town gas)	x	x	2-3	-	3	1
Ligroine	x	x	1	-	-	-
Liquors	1	1	1	-	-	-
Linoleic acid	x	x	2-3	-	-	-
Liquimoly	x	x	1	-	-	-
Lithium chromide	1	1	1	-	-	-



Medium	SBR	EPDM	NBR	NBR/PVC	PUR	PVC
Solvents (see exact name)						
LPG (see exact name)						
Air, atmospheric, oil-free, up to + °C	-	-	-	-	80	70
Air, oil-containing, up to + °C	-	-	-	-	80	70
Magnesium chloride, liq.	1	1	1	1	1	1-2
Magnesium hydroxide	2-3	1	2-3	2	1	1
Magnesium silicate (talcum)	1	1	1	1	1	1
Magnesium sulfate	2-3	1	2-3	1	1	1
Magnesium sulfite, liq.	1	1	1	1	1	1
Brewing mash	1	1	1	1	1	1
Maize oil	x	x	1	-	2	2
Maleic acid, liq.	x	x	2-3	x	x	1
Maleic anhydride	x	x	x	x	-	-
Margarine oils and fats	x	x	1	-	1	2
Maschine oils (see oils, mineral)						
Sea water	1	1	1	1	2	1
MEK (methyl ethyl ketone)	x	2-3	x	x	x	x
Melamine	-	-	-	-	-	x
Molasses	2-3	1	1	1	1	1
Menthol	2-3	2-3	2-3	-	3	-
Mesityl oxide	x	2-3	x	x	x	x
Methacrylic acid	x	2-3	x	-	-	-
Methyl methacrylate	x	x	x	-	-	-
Methane (gas)	x	x	1	1	3	1-2
Methanol (methyl alcohol)	1	1	2-3	1	3	x
Methoxybenzene	x	x	x	-	-	-
Methoxybutanol	x	2-3	1	-	-	-
Methyl acetate	x	2-3	x	x	x	x
Methyl acetoacetate	-	2-3	x	-	-	-
Methylacrylate	x	x	x	x	x	x
Methyl alcohol	1	1	1	-	3	1
Methylamine, liq. (methanamine)	2-3	1	x	-	x	3
Methyl bromide (bromomethane)	x	x	x	x	x	x
Methyl butyl ketone	x	1	x	x	x	-
Methyl cellulose	2-3	2-3	2-3	-	-	-
Methyl chloride (chloromethane)	x	x	x	x	x	x
Methyl chloroform (trichloroethane)	x	x	x	-	x	3
Methylcyclopentane	x	x	x	-	-	-
Methylene chloride (dichloroethane)	x	x	x	x	x	x
Methyl ethyl ketone (MEK)	x	2-3	x	x	x	x
Methyl formiate	x	2-3	x	-	-	-
Methyl glycol (methylcellosolve)	x	2-3	x	x	x	x
Methylglycol acetate	x	2-3	x	-	x	-
Methyl isobutyl ketone	x	x	x	x	x	x
Methyl isopropyl ketone	x	2-3	x	x	x	-
Methyl carbonate	x	x	x	-	-	-





Medium	SBR	EPDM	NBR	NBR/PVC	PUR	PVC
Methyl methacrylate	x	x	x	-	-	-
Methyl oleate	x	2-3	x	x	-	-
Methyloxiran (propylene oxide)	x	2-3	x	-	x	-
Methylphenols (cresols)	x	x	x	x	x	x
Methyl phthalate (dimethyl phthalate)	x	2-3	x	-	-	-
Microbes (microorganisms)	-	-	-	-	1	1
Milk	2-3	2-3	1	1	2	1
Lactic acid, liq.	2-3	2-3	2-3	-	2	3
Mineral oil (see oils, mineral)						
Mixed acid 1 (sulfuric acid/nitric acid/water)	x	2-3	x	x	x	x
Mixed acid 2 (sulfuric acid/phosphoric acid/water)	x	2-3	x	-	x	1
Monoethanolamine	x	2-3	x	x	-	-
Monochlorobenzene	x	x	x	x	x	x
Monochloroacetic acid	x	2-3	x	-	x	2
Monochloromethane (methyl chloride)	x	x	x	x	x	x
Morpholine	x	2-3	x	x	x	x
Monostyrene (styrene, monomer)	-	-	-	-	3	x
Must, unfermented	-	-	-	-	1	1
Must, fermented (fruit wine)	-	-	-	-	1	1
Engine oils (see oils & fats, mineral; check the additives)						
Myristyl alcohol (tetradecanol)	-	-	-	-	1	1
Naphtha (crude oil)	x	x	x	2	2	2-3
Naphthenic acid	x	x	2-3	2	-	-
Naphtalene (rock oil)	x	x	x	x	2	x
Sodium acetate, liq.	x	1	2-3	-	3	1
Sodium benzoate, liq.	1	1	1	-	1	1-2
Sodium bicarbonate , liq. (sodium hydrogen carbonate)	1	1	1	1	2	1
Sodium bisulfate (sodium hydrogen sulfite)	1	1	1	1	x	1
Sodium bisulfite, liq. (sodium hydrogen sulfite)	2-3	1	1	1	x	1
Sodium borate (borax)	1	1	2-3	-	1	1
Sodium bromide	-	-	-	-	-	1-2
Sodium carbonate (soda)	1	1	1	1	x	1
Sodium chlorate, liq.	2-3	1	2-3	-	2	1
Sodium chloride (common salt, table salt)	2-3	1	2-3	-	2	1
Sodium chlorite	1	1	1	-	-	3
Sodium cyanite	1	1	2-3	-	3	1
Sodium dichromate	2-3	1	2-3	-	3	-
Sodium fluoroaluminat 10%	1	1	1	1	2-3	1
Sodium fluoride	1	1	1	1	2	1
Sodiumhydroxide(sodiumhydroxidesolution,causticsoda)25%,20°C	2-3	1	2-3	-	x	3
Sodiumhydroxide(sodiumhydroxidesolution,causticsoda)25%,10°C	2-3	1	2-3	-	x	x
Sodium hypochlorite 10%	x	2-3	2-3	-	2	1
Sodium hypochlorite 30%	x	2-3	2-3	-	3	1
Sodium metaphosphate	-	-	-	-	1	1
Sodium nitrate, liq. (Chile saltpeter)	2-3	1	2-3	-	1	1
Sodium nitrite	1	1	x	-	1	1



Medium	SBR	EPDM	NBR	NBR/PVC	PUR	PVC
Sodium perborate	2-3	1	2-3	-	x	2
Sodium peroxide	2-3	1	2-3	-	2	2
Sodium phosphate (see also trisodium phosphate)	1	1	1	1	2	1
Sodium silicate, liq.	1	1	1	1	3	1
Sodium sulfate, liq. (Glauber's salt)	2-3	1	2-3	-	1	1
Sodium sulfide, liq.	2-3	1	2-3	-	2	1
Sodium sulfite, liq.	2-3	1	1	1	1	1
Sodium thiosulfate (antichlor, fixing salt)	2-3	1	2-3	-	2	1
Sodiumhydrogencarbonate,alsobicarbonatofsoda(sodiumbicarbonate)	1	1	1	1	x	1
Sodium hydroxide solution (see sodium hydroxide)						
Chile saltpeter (sodium nitrate)	-	-	-	-	1	1
Natural gas, wet	x	x	1	1	1-2	1
Natural gas, dry	x	x	1	1	1	1
Neon, gas	1	1	1	-	-	-
Nickel acetate	x	1	2-3	2	2	-
Nickel chloride, liq.	1	1	1	1	2	1
Nickel sulfate, liq.	2-3	1	1	1	2	1
Nitrating acid (mixed acid 1)	x	2-3	x	x	x	x
Nitrobenzene	x	x	x	x	x	x
Nitroethane	2-3	2-3	x	x	-	-
Nitroglycerin	2-3	1	x	-	x	2
Nitroglycol	2-3	1	x	-	-	-
Nitromethane	2-3	2-3	x	x	x	2-3
Nitropropane	x	2-3	x	-	x	
Nitrotoluenes	-	-	-	-	x	x
Nitrous gases (nitrogen oxides)	x	2-3	x	x	x	x
Nitrotoluene	x	x	2-3	-	-	-
Cellulose thinner (Cellosolve, petroleum ether)	x	x	1	-	2	x
Nonyl alcohol (nonanol)	x	1	x	-	x	-
Nut oil	x	x	1	1	2	-
Fruit pulp	1	1	1	1	1	1
Fruit wines, fermented	1	1	1	1	1	1
Octadecane	x	x	1	-	-	-
Octane	x	x	2-3	-	1	-
Octanol = octyl alcohol	2-3	1	2-3	-	x	x
Octylcresol	x	x	2-3	-	-	-
Oils and fats						
- ASTM oil No. 1 20°C	x	x	1	-	1	2
- ASTM oil No. 2 20°C	x	x	1	-	2	2
- ASTM oil No. 3 20°C	x	x	2-3	-	2	2
- diesel	-	-	-	-	2	3
- fuel oil	x	x	x	-	2	3
- hydraulic oils and fluids:						
- mineral oil-based	x	x	1	-	1	3
- glycol-based (polyalkylglycols)	-	-	-	-	1-2	-
- phosphate ester-based (Pydraul)	-	-	-	-	x	x



Medium	SBR	EPDM	NBR	NBR/PVC	PUR	PVC
- mineral, without additives, at +20°C	x	x	1-2	1	1	2
- mineral, without additives, up to + °C	-	-	-	-	60	x
- plant (vegetable)	x	x	1	1	1	2
- crude oil, high aromatic fraction	x	x	2-3	-	2	3
- silicone oils and greases	1	1	1	1	1	1
- animal	x	2-3	1	1	1	2
- transformer oils (pyranols)	x	x	2-3	x	2	3
Oleic acid	x	x	2-3	3	1	2
Oleum (fuming sulfuric acid)	x	x	x	x	x	x
Oleum vapours	-	-	-	-	x	3
Oleyl alcohol	1	2-3	1	-	-	-
Olive oil	x	x	1	1	1	1
Oleic acid	-	-	-	-	1	2
ortho-Dichlorobenzene	x	x	x	-	-	-
Oxalic acid, liq.	2-3	1	2-3	-	x	2
Oxirane (ethylene oxide)	-	-	-	-	x	x
Ozone (atmospheric)	x	1	x	x	2-3	2
Palmitic acid	2-3	3	2-3	1	1	2
Palm oil, palm nut oil	x	x	1	-	2	1-2
Paraffin, Paraffin oils	x	x	1	-	2	1-2
para-Dichlorobenzene	x	x	x	-	-	-
Paraformaldehyde	x	2-3	2-3	-	1	-
Pectin	1	1	1	1	1	1
Pentachlorodiphenol	x	x	x	-	-	-
Pentachlorophenol	x	2-3	x	-	x	-
Pentane	x	x	1	1	x	1
Pentanol (amyl alcohol)	2-3	1	2-3	-	3	1
Perborate (sodium borate, Borax)	1	1	2-3	-	1	1
Perchloroethylene (tetrachloroethylene)	x	x	x	x	x	x
Perchloric acid, liq.	x	2-3	x	x	x	2-3
Perhydrol (see hydrogen peroxide)						
Permanganate, liq. (potassium permanganate) 10%	2-3	1	x	-	1	1
Petroleum ether (cellulose thinner, Cellosolve)	x	x	1	-	2	x
Petrol(eum)	x	x	1	1	1	x
Vegetable oils (see oils)						
Phenol, liq. (carbolic acid)	x	x	x	x	3-x	x
Phenylbenzene (bi- or diphenyl)	x	x	x	x	x	x
Phenyl ether (diphenyl oxide)	x	x	x	x	x	x
Phorone (diisopropylidene acetone)	1	2-3	x	-	x	-
Phosphoroxyltrichloride	-	-	-	-	x	x
Phosphoric acid 3%	2-3	1	2-3	2	2	1
Phosphoric acid 50%	-	-	-	-	2	1
Phosphoric acid 85%	x	2-3	x	x	x	1
Aluminium phosphate	1	1	1	1	1	1
Phthalic acid	1	1	2-3	-	-	2
Phthalic anhydride, liq.	1	1	1	-	-	3



Medium	SBR	EPDM	NBR	NBR/PVC	PUR	PVC
Phthalic esters (phthalates)	-	-	-	-	3	1
Picric acid	2-3	2	2-3	2	2-3	2-3
Fungus (microbes)	-	-	-	-	1	1
Pinene	x	x	2-3	-	-	-
Pine oil	-	x	-	1	1	3
Piperidine	x	x	x	x	x	x
Polychlorinated biphenyls (pyranoles, transformer oils)	x	x	2-3	-	2	3
Polyvinyl acetate	x	x	x	x	x	x
Potash (potassium carbonate)	2-3	1	2-3	-	2	1
Compressed air (air, oil-containing) up to + °C	-	-	-	-	80	70
Propane, liq.	x	x	1	1	3	1
Propane, (gas)	x	x	1	1	3	1
Propanol (propyl alcohol)	-	2	-	1	x	-
Propanone	2-3	1	x	-	-	-
Propargyl alcohol, liq. (propin-1-ol) 7%	1	1	1	-	x	-
Propionitrile	x	x	1	-	-	-
Propionic acid (propanoic acid)	x	2-3	2-3	-	x	1
Propyl acetate	x	2-3	x	-	x	-
Propyl alcohol (see propanol)	1	1	2-3	-	3	1-2
Propylamine	x	x	x	-	x	-
Propylene (propene)	x	x	x	x	x	2
Propylene dichloride	x	x	x	-	-	-
Propylene glycols (propandiols)	1	1	2-3	-	x	3
Propylene oxide (methyloxirane)	x	2-3	x	-	x	-
Propyl nitrate	x	2-3	x	x	-	-
Pydraul (hydraulic oil, phosphate-ester based)	-	-	-	-	x	1
Pyranols (transformer oils) -> (see oils and fats)						
Pyridine	x	x	x	x	x	x
Pyrrrole	x	x	x	-	x	-
Mercury	1	1	1	-	1	2
Mercury chloride (sublimite)	1	1	1	-	1	2
Mercury nitrate	1	1	1	1	1	1
Fuming sulfuric acid (oleum)	-	-	-	-	x	x
Rape oil (rapeseed oil)	x	1	2-3	-	2	-
Beef tallow, suet (see oils, animal)	x	x	1	-	1	2
Castor oil (ricin)	2-3	2-3	1	-	1	-
Crude oil, high aromatic fraction	x	x	2-3	x	2	3
Cane sugar, liq. (sugar)	1	1	1	1	1	1
Sugar cane liquor	1	1	1	1	3	1
Red oil (aniline)	x	x	x	x	x	2-3
Sugar-beet liquor	1	1	1	-	-	-
Rapeseed oil	x	1	2-3	-	-	-
Saccharose, liq. (sugar)	1	1	1	1	1	1
Sacrotan	1	1	2-3	-	-	-
Salicylic acid, liq. (spiric acid, ortho-hydroxybenzoic acid)	2-3	1	2-3	2	1	2
Salmiac, liq. (ammonium chloride) 3%	1	1	1	1	1	1



Medium	SBR	EPDM	NBR	NBR/PVC	PUR	PVC
Ammonium hydroxide, aqueous (25% ammonia in water)	-	-	-	-	x	1
Nitric acid 10%	x	2-3	x	-	3	1
Nitric acid 25%	x	-	x	-	x	1
Nitric acid 50% (aqua fortis)	x	x	x	-	x	2-3
Nitric acid 60%	x	x	x	x	x	2-3
Salt, table (common salt, sodium chloride)	1	1	1	1	2	1
Hydrochloric acid 15%	2-3	1	2-3	-	2	1
Hydrochloric acid 38% (conc.)	x	1	x	-	x	2
Hydrochloric acid, gaseous = hydrogen chloride	2-3	1	2-3	-	2	1
Salt water (brine or sea water)	1	1	1	1	1	1
Sangajol = turpentine oil substitute (see gasolines)						
Acids, general (see the exact name)	-	-	-	-	3	2-3
Oxygen, pure, up to + °C	-	-	-	-	80	70
Aqua fortis (nitric acid 50%)	x	x	x	-	x	2-3
Lubricating oils and greases (see mineral oils - take additives into account!)						
Black liquor (cellulose extraction)	2-3	2-3	2-3	-	x	-
Sulfur, molten 90°C	x	2-3	x	x	2	x
Sulfur chloride	x	x	x	3	-	-
Sulfur dioxide (see sulfurous acid)	x	1	x	-	-	-
Sulfuric ether (see ethers)						
Sulfur hexafluoride	2-3	1	2-3	-	-	-
Carbon disulfide (carbon bisulfide)	x	x	x	-	2	2-3
Sulfuric acid 10%	-	2	-	3	2	1
Sulfuric acid 30%	-	2	-	x	2	1
Sulfuric acid 50%	x	x	x	x	2	1
Sulfuric acid 75%	x	x	x	x	x	2
Sulfuric acid 90%	x	x	x	x	x	x
Sulfuric acid conc. (oleum, fuming sulfuric acid)	x	x	x	x	x	x
Sulfur trioxide (sulfur anhydride)	x	2-3	x	x	2	1
Hydrogen sulfide, damp	x	1	x	x	3-x	x
Hydrogen sulfide, dry	x	1	x	x	3	x
Sulfurous acid 10%, damp	x	2-3	x	x	2	2
Sulfurous acid 75%, damp	x	x	x	x	x	2-3
Lard (pig's fat, see oils and fats, animal)	x	2-3	1	-	1	2
Heavy gasoline (paint thinner or white spirit)	-	-	-	-	1-2	3
Sebacic acid ester	-	-	-	-	x	x
Lake water (see water)						
Soap solution (see detergents)	2-3	1	1	1	2	1
Mustard	2-3	-	1	-	1	1-2
Mustard gas	-	1	1	-	-	-
Silver nitrate, liq.	2-3	1	2-3	2	1	2
Silicon dioxide (silicic acid)	1	1	1	1	1	1
Silicone oils and greases (see oils and fats)						
Skydrol (hydraulic oils, phosphate ester-based)	x	1	x	x	x	1
Soda, crystallised (sodium carbonate)	1	1	1	1	x	1
Soda, calcinated (see sodium carbonate, anhydrous)						





Medium	SBR	EPDM	NBR	NBR/PVC	PUR	PVC
Soyabean oil	x	x	1	1	2	1
Brines (sodium chloride solution)	1	1	1	1	1	1
Bacon	-	-	-	-	1	-
Spindle oil (see oils, mineral)						
Methylated spirit (methylated or denatured ethanol)	1	1	2-3	2-3	2	2-3
Town gas, lamp gas (natural gas, see natural gas)	x	x	2-3	-	3	1
Starch, liq.	1	1	1	1	1	1
Starch syrup	-	-	-	-	2	1
Stearin (stearic acid)	2-3	2-3	2-3	2	2	1-2
Coaltar (see also: hot tar)	x	x	2-3	2-3	3	2-3
Rock oil (naphthalene)	x	x	x	x	2	x
Rock salt (halite)	-	-	-	-	2	1
Nitrous oxide (laughing gas, dinitrogen monoxide)	-	-	-	-	1	1
Nitrogen	1	1	1	1	1	1
Dinitrogen tetroxide	x	x	x	-	-	-
Nitrogen oxides (nitrous gases)	-	-	-	-	x	x
Radiation, radioactive	-	-	-	-	2	3
Radiation, UV	-	-	-	-	2	2
Styrene, monomer	x	x	x	x	3	x
Sublimate (mercury chloride)	-	-	-	-	1	2
Sulfite liquor	2-3	2-3	2-3	-	-	-
Sulfonic acids, general	-	-	-	-	x	1
Sulfuryl chloride	2-3	2-3	x	-	-	-
Marsh gas (biogas, methane)	-	-	-	-	1	1
Tallow	x	2-3	1	1	1	1
Talc(um) (magnesium silicate)	1	1	1	1	1	1
Tannin (tannic acid)	2-3	2-3	2-3	1	2	1
Tar (see also: hot tar)	x	x	x	2	x	2
Turpentine (oil)	x	x	2-3	-	x	x
Turpentine substitute	-	-	-	-	1-2	3
Terpinoel	x	x	2-3	2	2	
White spirit	-	-	-	-	1-2	3
Tetraethyl lead	x	x	2-3	2	-	-
Tetrabromoethane	x	x	x	-	-	-
Tetrabromomethane	x	x	x	-	-	-
Tetrachloroethane	x	x	x	x	x	3
Tetrachloroethylene (perchloroethylene)	x	x	x	x	3	x
Carbon tetrachloride (tetrachloromethane, tet)	x	x	x	x	3	x
Tetrahydrofuran (THF)	x	x	x	x	3	x
Tetralin = tetrahydronaphthalene	-	-	-	-	x	1
Thionyl chloride	-	-	-	-	x	x
Thiophene	x	x	2-3	-	x	x
Animal fat	x	2-3	1	1	1	2
Ink	1	1	1	-	1	3
Titanium tetrachloride	x	x	2-3	-	-	-
Toluene	x	x	x	x	x	x



Medium	SBR	EPDM	NBR	NBR/PVC	PUR	PVC
Toluene diisocyanate	x	2-3	x	-	-	-
Fish liver oil	x	2-3	1	1	1	1
Transformer oils	x	x	2-3	-	2	3
Grape juice, unfermented	-	-	-	-	1	1
Grape sugar (glucose)	1	1	1	1	1	1
Transmission fluid, type A	x	x	1	1	1	-
Triaryl phosphate	x	1	x	-	-	-
Tributoxyethyl phosphate	2-3	2-3	x	-	-	-
Tributyl mercaptan	x	x	x	-	-	-
Tributyl phosphate (TBP)	x	2-3	x	x	x	x
Triacetine	x	1	2-3	-	-	-
Trichloroethylene	x	x	x	x	x	-
Trichloroacetic acid (TCA)	2-3	2-3	2-3	-	x	2
Trichloroethane (methyl chloroform)	x	x	x	x	x	3
Trichloroethylene (ethylene trichloride)	x	x	x	x	x	x
Trichloroethyl phosphate	-	-	x	-	-	-
Trichloromethane (chloroform)	x	x	x	x	x	x
Tricresyl phosphate	x	2-3	x	x	x	x
Triethanolamine	2-3	2-3	x	x	x	x
Triethylaluminium	-	-	-	-	-	-
Triethylamine	x	x	2-3	-	3	3
Triethylborane	-	-	-	-	-	-
Triethylglycol	1	1	1	-	-	-
Triethylene glycol (triglycol)	-	-	-	-	2	-
Trifluoroethane	x	x	x	-	-	-
Trihydroxybenzoic acid	2-3	2-3	2-3	-	-	-
Triisopropylbenzene	x	x	1	-	-	-
Trisodium phosphate	1	1	1	1	3	1
Trinitrotoluene (TNT)	x	x	x	x	-	-
Trioctyl phosphate	x	2-3	x	x	x	x
Tung oil (Chinese tea-tree oil)	-	-	-	-	2	-
Perchloric acid						
Hypochlorous acid	2-3	2-3	x	-	-	-
Urine	1	1	1	1	1	1
Vaseline (white petroleum jelly)	2-3	2-3	1	-	1	2
Paraffin oil	x	2-3	1	-	-	-
Thinner for paints and varnishes (see exact composition)						
Vinyl acetate	x	1	2-3	-	x	x
Vinyl acetylene	2-3	1	1	-	-	-
Vinyl chloride, monomer (chloroethene)	x	2-3	x	x	x	x
Vitriol (copper sulfate)	-	-	-	-	1	1
Oil of vitriol (oleum)	x	x	x	x	x	x
Wax alcohol		x	1	-	-	-
Spermaceti	x	1	1	-	-	-
Spermaceti oil	x	2-3	1	-	-	-
Benzine (petroleum ether)	x	x	1	1	2	-



Medium	SBR	EPDM	NBR	NBR/PVC	PUR	PVC
Detergents, synth. 20°C	2-3	1	1	1	2	1
Water						
- drinking or mineral water, without additives, up to + °C	80	800	80	-	25	70
- mineral water (CO <sub>2</sub> -saturated)	1	1	1	1	1	1
- aqua regia	-	-	-	-	x	2-3
- sea water	1	1	1	1	2	1
- lake water	1	1	1	1	2	-
Steam to + °C	-	-	-	-	x	x
Waterglass (sodium silicate)	1	1	1	1	3	1
Hydrogen (gas)	x	2-3	1	1	1	1
Hydrogen peroxide 10%	-	-	-	x	2	1
Hydrogen peroxide 30%	x	2-3	x	x	2	2
Wine, red and white	1	1	1	1	1	1
Tartaric acid, solution	2-3	2-3	1	1	1	1
White liquor	1	2-3	2-3	-	-	-
White oil	x	x	1	1	1	-
White spirit (heavy gasoline)	-	-	-	-	1-2	3
Bismuth carbonate	1	1	1	1	1	1
Wool fat (lanolin)	x	x	1	-	1	2
Xenon	1	1	1	-	-	-
Xylamon (wood primer)	x	x	x	-	3	-
Xylenol	x	x	x	-	-	-
Xylidene	x	x	x	-	-	-
Xylidine (dimethylaniline)	x	x	x	-	x	-
Xylene (xylol)	x	x	x	x	x	x
Zeolite	1	1	1	-	-	-
Cinnamaldehyde	x	1	x	-	-	-
Zinc acetate	x	1	2-3	-	-	-
Zinc chloride	1	1	1	1	1	-
Zinc sulfate	2-3	1	1	1	-	-
Tin(II) chloride	1	1	1	-	-	-
Tin(IV) chloride	1	1	1	-	-	-
Citric acid	2-3	1	1	1	1	1
Lemon juice	1	1	1	1	1	1
Sugar	1	1	1	-	-	-
Sugar-beet liquor	1	1	1	-	-	-

The information given in the table has been compiled and collated on the basis of our own tests, recommendations from our raw material suppliers and on practical experience reported by our customers. Because the specific operating conditions have an additional influence on the suitability of the particular hose for a particular application, these data only represent guiding values. In many cases in which no practical experience has been gained, we recommend that the user carries out preliminary tests to avoid possible problems. This is applies, in particular, to mixtures of chemicals. We would be grateful if you would inform us of any experience you have made with these materials so that we can extend and supplement this chemical resistance list.