

Chemical Resistance Table

General:

The mixture of different media can lead both to an improve ment and to a debasement of the resistance. Statements in the resistance table are only valid for one medium. The respective working conditions, such as higher temperatures, extreme che- mical and mechanical stress, combined with dynamical factors may effect the performance of every hose additionally.

If plastics come into contact with media, against which accord- ing to the resistance table they are unresistant, so this may not necessarily lead to the failure of the product. A strong, but reversible swelling can therefore be classified as unresistant.

Therefore we recommend in all cases, in which exact details are required,

- a test in our laboratory with the corresponding medium at the temperature of use,
- to find out these data by tests at the place of application (If experiences concerning the application are not available, we will gladly put the required test material at your disposal.).

The stated resistances are non-committal measure or experience values of bench tests and therefore only standard values subject to changes and deviations.

As the operating conditions with the user are outside our control, no guarantee can be given.

The data means:

1 very good resistance:

The material will be probably not attacked by the medium.

2 medium resistance:

The material will probably have a satisfactory fitness for use for months or up to years. Later an advanced damage could lead to destruction.

3 conditional resistance:

By short term and occasional contact, or at weak concentration of the medium, the material will probably have a certain fitness for use. At continuous contact you have to reckon with the destruction of the material.

- unresistant or soluble:

The application of the material cannot be recommended, as the mechanical properties will be reduced strongly, the material will be disintegrated or decomposed.

	Ester-PUR	Ether-PUR (MHF)	Soft-PVC	LDPE (AIRDUC [®] and PROTAPL)	HDPE + LDPE (CP)	TPE	NEOPRENE [®]	HYP (LCSW)	VITON [®]	Silicon	PTFE	PA	ARAMID
media	20°C	60°C	60°C	60°C	60°C	60°C	60°C	60°C	60°C	60°C	60°C	60°C	60°C
acetaldehyde, aqueous	-	1	1				1	1	2	1			
acetamide	2	2	2	1	2	3	1	2	3	2	2	1	2
acetic acid 10%	-	-	-	1	1	1	2	2	2	1	2	1	1
acetic acid 100%	-	-	-	1	1	2	2	3	2	-	3	1	1
acetic acid 3%	-	-	-	-	-	-	-	-	-	-	-	1	1
acetic acid ethyl ester (ethyl acetates)	1	1	1	2	3	1	1	1	1	1	1	1	1
acetic anhydride	-	-	-	1	1								
acetone	-	-	-	1	1	1	3	3	2	3	3	1	1
acetylacetone	-	-	-	-	3	1	-	1	-	2	1	1	
acetylene	-	-	-	-	-	3	-	3	-	3	-	1	1
acetylsalicylic acid (Aspirin)	3	2	3	1	2	1	1	1	1	1	1	1	1
acids, generally (see exact media)													
acrylic acid ethylester							1						
acrylic esters (ethyl acrylate)													
acrylonitrile													
adipic acid, aqueous	1	2	1	1	2	1	1	1	1	1	1	1	1
air, containing oil → oil	1	2	1	2	3	-	-	2	-	1	1	1	1
air, dry	2	2	2	1	1	1	2	2	1	1	2	2	1
air, wet → water vapour	3	3	3	1	1	2	1	1	1	3	3	-	1
alcohols, generally (see exact media)	-	-	-	-	3	-	2	-	1	-	1	1	2
aliphatics, generally (see exact media)	-	3	1	1	1	1	1	1	1	-	1	1	
alkalis, generally (see exact media)	2	3	1	2	1	1	1	1	2	1	1	1	1
allyl alcohol	3	3	-	1	1	1	1	1	1	1	1	1	1
allyl chloride	3	2	-	1	1	1	1	1	1	1	1	1	1
alum, aqueous	3	2	1	1	1	1	1	1	1	1	2	1	1
aluminium acetates	2	1	1	1	1	1	1	1	1	1	1	1	1
aluminium chloride, 10%	2	-	1	3	1	1	1	1	2	1	1	1	1
aluminium fluoride	2	-	1	2	1	1	1	1	2	1	1	2	1
aluminium hydroxide	3	-	2	-	1	2	1	1	3	2	1	3	-
aluminium nitrate	3	-	2	-	1	1	1	2	-	2	3	-	1
aluminium phosphates	-	-	-	-	-	-	1	3	3	3	-	1	1
amines → see exact media	-	-	1	1	1	1	1	1	1	3	-	1	2
aminoethanols	3	-	1	2	1	1	1	1	1	1	2	3	-
ammonia, aqueous 100%	3	-	1	2	1	1	1	1	1	2	3	-	1
ammonia, aqueous 3% (liquid ammonia)	-	3	-	1	1	1	1	1	1	1	1	1	1
ammonia, gaseous	-	3	-	1	2	1	1	1	1	1	1	1	1
ammonium acetate, aqueous	1	2	1	2	1	1	1	1	1	1	1	1	1
ammonium carbonate, aqueous	3	1	1	1	1	1	1	1	1	1	1	1	1
ammonium chloride, aqueous 3% (salmiac)	-	-	1	3	1	1	1	1	1	1	2	1	1
ammonium diphosphat, aqueous	1	1	1	2	1	1	1	1	1	1	1	1	1
ammonium fluorides, aqueous	3	-	2	-	1	1	1	1	2	1	1	1	1
ammonium metaphosphat, aqueous	2	-	2	-	1	1	1	1	1	1	1	1	1
ammonium nitrate, aqueous	1	-	1	3	1	1	1	1	1	1	1	1	1
ammonium phosphates, aqueous	3	2	1	1	1	1	1	1	1	1	1	1	1
ammonium sulfate	-	-	-	1	2	3	3	-	3	-	-	1	1
ammonium thiocyanate	-	-	-	-	-	-	1						
amyl alcohols → pentanols	-	-	-	-	3	-	-	-	2	-	1	1	1
amyl chlorides	-	-	-	-	2	2	3	-	2	3	1	3	-
aniline	-	-	-	2	-	1	1	2	3	3	-	1	1
aniline hydrochloride	-	-	-	-	1	1	3	-	-	-	1	1	1
animals fat → oil, animal								2					
anise oil													
anole → cyclohexanol	-	-	1	1	1	1	1	1	1	1	-	1	1
anone → cyclohexanone	-	-	1	1	1	1	1	1	1	1	2	1	1
anthraquinonesulfonic acid, aqueous	3	-	2	-	1	1	1	1	1	1	1	1	1
antifreezes → see exact media	-	3	-	1	1	1	1	1	1	1	1	1	1
antimony chlorides, free of water	1	1	1	1	1	1	1	1	1	1	1	1	1
antimony-III-chlorides, aqueous	-	-	-	-	1	1	2	3	3	-	3	1	1
aqua fortis → nitric acid	3	-	3	-	1	2	1	1	1	1	2	1	1
aqua regia (nitrohydrochloric acid)	2	-	2	-	2	3	1	1	2	3	1	3	1
argon													
aromatics, generally (see exact media)													
arsenic acid, aqueous	-	-	1	1	1	1	1	1	1	1	3	1	1
asphalt													
ASTM-fuels → gasoline	1	3	1	2	1	1	1	1	1	1	1	1	1
ASTM-oils → oil	3	-	2	3	1	1	1	1	1	1	1	1	1
ATE-brake fluids → brake fluids	1	1	1	1	1	1	1	1	2	1	1	1	1
ATF-oil → oil	3	-	2	3	1	1	1	1	1	2	1	1	1
azurit → cupric hydroxide	1	1	1	1	1	1	1	1	2	2	1	2	1
barium chloride, aqueous	-	-	-	1	3	-	1	-	-	3	-	1	3
barium hydroxide, aqueous	1	1	3	-	1	1	2	3	-	1	1	3	-
barium sulfate	1	1	3	-	-	-	1	1	1	1	3	1	1
barium sulfide	3	3	3	-	-	-	-	-	-	1	3	1	1
basic aluminium acetate → aluminium acetates	-	-	-	3	-	-	-	-	-	1	-	1	1
battery acid → sulfuric acid	1	1	3	-	1	1	2	3	-	-	1	1	1
beef tallow (beef fat) → oil, animal	1	1	3	-	-	-	-	-	-	-	1	1	1
beer	2	2	3	-	-	-	-	-	-	-	1	1	1
benzaldehyde	3	2	3	-	-	-	-	-	-	-	1	1	1
benzene	1	1	3	-	1	1	2	3	-	1	-	1	1
benzoic acid, aqueous	1	2	1	2	3	-	1	2	-	-	1	1	1
benzyl alcohol	3	3	3	-	-	-	-	-	-	2	-	1	1
benzyl benzoate	2	2	3	-	-	-	-	-	-	2	-	1	1
benzylchloride	2	2	3	-	-	-	-	-	-	1	3	1	1
bismuth carbonates	2	2	3	-	3	2	3	-	-	-	1	3	1

All stated dimensions, sizes and technical data are approx.- figures based on a temperature of 20 °C. Engineering modifications subject to change.

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media	20°C 60°C	Ester-PUR 20°C 60°C	Ether-PUR (MHF) 20°C 60°C	Soft-PVC 20°C 60°C	LDPE (AIRDUC * and PROTAP) 20°C 60°C	HDPE + LDPE (CP) 20°C 60°C	TPE 20°C 60°C	NEOPRENE * 20°C 60°C	HYP (L-CSM) 20°C 80°C	VITON * 20°C 80°C	Silicon 20°C 80°C	PTFE 20°C 100°C	PA 20°C 60°C	ARAMID 20°C 100°C
bitter salt → magnesium sulfate														
bitumen (asphalt)	2	-	2	2	3	1	2	3	-	3	-	1	3	-
black liquor (cellulose-/ pulp-production)	-	-							1	1	1	-	1	1
blood			1	1	1	1						1	1	
bone oils	1	1	2		2	3	-	-	1	1	2	3	1	1
borax, aqueous	2	3	1	1	1	1	1	1	1	1	1	1	1	1
boric acid, aqueous	2	3	1	2	1	1	1	1	1	1	1	-	1	3
brake fluid, ATE-	-	-	-	1	1	1	1	1	-	1	3	2	1	1
brake fluid, ATS-	-	-	-	1	1	1	1	1	1	3	2	1	1	
brake fluid, out of glycol ethers	-	-										1		
brine → sodium chloride														
bromine	-	-	-	-	-	-	-	-	3	-	1	-	1	-
bromine water	-	-	-	-	-	-	-	-	2	1	-	-	-	-
bromobenzene	-	-	-	1	1	2	3	-	-	-	-	1	3	-
bromochloromethane	-	-	-	2	-	3	-	-	-	-	1	-	1	3
butadiene	2	3	1	2	1	1	2	-	3	-	2	1	1	1
butane, gaseous	1	1	3	-	3	2	3	-	1	1	-	1	1	
butane, liquid	1	1	2	1				1	1	1	3	1		
butanediols → butylglycol														
butanol → butylalcohol														
butanone → methyl ethyl ketone (MEK)														
butene, aqueous	1	1	2	2	-	-	-	-	1	3	1	-		
butter	2	1	2	1	1	1	1	2	2	1	1	1	1	
butter milk	2	1	1	1	1	1	1	2	2	1	1	1	1	
butyl acetates		-	-	1	1	3		-	-	-	-	1	1	
butyl benzoate	1	1						-	-	1	-	1		
butyl carbitol	-	-					3	2	1	2	1			
butyl oleate	-	-					-	-	1	1	1			
butyl phenol	-	-	3	-	1	1	2	3	-	2	3	-		
butyl stearate	1	1	1	-			-	2	1	1	1			
butylalcohol	2	3	2	3	2	3	1	1	1	1	3	2	1	1
butylamine	2	2	-	3			3	-	-	2	1			
butylether	-	3	1	1			2		-	3	1			
butylglycol, aqueous	1	1	3	1	1	1	1	2	-	1	1	2	2	
butynediol	1	1						2	3	1				
butyraldehyde				1	1	1		-	3	-	-	1		
butyric acid	3	-	2	3	1	1	2	3	3	2	3	-	1	3
calcium acetate	2	2	1	1	1	1		3	2	-	2	1		
calcium bisulfate, aqueous	1	1	1	1			1	1	1	1	1			
calcium bisulfate, aqueous	3	3	1	1			1	1	1	2	1			
calcium carbonate	1	1	1	1	1	1	1	1	1	1	1	2		
calcium chloride, aqueous 10%	2	-	1	3	1	1	1	1	1	1	1	1	2	
calcium hydroxide, aqueous	1	3	1	2	1	1	1	1	1	1	2	1	1	
calcium hypochlorite	-	-	1	1	1	1	1	3	1	1	3	-	1	-
calcium nitrate	1	1	1	1	1	1	1	1	1	1	1	1	1	
calcium oxide (lime)	1	1	1	1	1	1	1	1	1	1	2	1		
calcium phosphates, aqueous	2	2	-	1	1	1	1	1	1	1	1	1	3	
calcium sulfate	1	1	1	1	1	1	1	2	1	1	1	1	1	
calcium sulfide	1	1	1				1	1	1	2	1			
camphor	-	-	-	1	1	3	-		3	-	3	-	1	1
cane sugar → sugar														
carbitol	-	-	3	1				3	2	2	2	1		
carbolic acid → phenol														
carbolineum	-	-	-	1	1	1		1	-	1	-	1	1	
carbon dioxide, dry	1	1	1	1	1	1	1	1	1	1	1	1	1	1
carbon dioxide, wet (carbonic acid)	2	1	1	1	1	1	1	1	1	1	1	1	1	1
carbon disulfide	-	-	-	1	1	3	-	-	-	1	-	1	2	
carbon oxide (carbon monoxide)	1	1	1	1	1	1	1	1	2	1	1	1	1	1
caro's acid			1	-				-	2					
casing head gas → natural gas														
castor oil	1	1	2	3	1	1	2	2	2	1	1	1	1	1
caustic potash → potash lye														
caustic soda → sodium hydroxide														
celluloseacetate	1	1	1	1				1			1	1	1	
chloral hydrate	-	-	-	1	1	1		2	2	3	1	-		
chloramine, aqueous	2	2					1		1	1	-	1		
chloric acid, aqueous	-	3	-	1	2	1	2	3	-	1	3	3	-	1
chloride of lime (bleach)	-	-	2	3	1	1	1	3	1	1	1	-	1	3
chlorinated hydrocarbons, generally (see exact media)	-	-	-	-	-	-	-	-	2	3	-	1	3	-
chlorinated water	-	3	-	2	3	2	3	-	2	1	3	1	-	
chlorine oxides	-	-	2	-				1	1	1	-	1		
chlorine, aqueous	-	-	-	-	-	-	-	3	-	1	-	1	-	
chlorine, gaseous dry	-	-	-	-	-	-	-	3	1	-	-	1	-	
chloro butadiene → chloroprene														
chloro ethane → ethyl chloride														
chloro ethylene → ethylene chlorohydrin														
chloroacetic acid, mono-	-	-	1	3	1	1	3	-	1	3	2	-	1	-
chlorobenzene	-	-	-	1	3			-	-	2	-	1	1	1
chloroform (trichloromethanes) → chloromethanes														
chloromethanes (chloroform, dichloromethane)	-	-	-	3	-	-	-	-	2	-	1	3	-	2
chloroprene (chloro butadiene)	-	-	-	3	-	-	-	-	2	1	-	1		
chlorosulfuric acid	-	-	-	-	-	-	-	-	-	-	-	1	-	
chromic acid 10%	-	3	-	1	3	2	3	3	1	1	2	1	-	3

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media	20°C 60°C	20°C 60°C	20°C 60°C	20°C 60°C	20°C 60°C	20°C 60°C	20°C 60°C	20°C 80°C	20°C 80°C	20°C 80°C	20°C 100°C	20°C 60°C	20°C 100°C
chromic acid 17%	-	-	1		3	-	3	-	1	1	3	1	-
chromic acid 25%	-	-	2	-	-	-	-	-	2	2	-	1	-
chromic acid 50%	-	-	-	-	-	-	-	2	3	2	-	1	-
citric acid, aqueous	2	-	1	3	1	1	1	1	1	1	2	1	1
cleaners (washing agents) → detergents													
coal tar	3	3	2	2			3	-	1	-	1		
coal tar → creosote													
coconut oil	1	1	1	1	1	1	2	3	3	3	1	1	2
coconuts fatty alcohol	-	-	1	2	1	1	2	3		1	1	2	3
copper acetates, aqueous	2	2	1	1	1	1	2	-	2	-	2	1	1
copper chloride, aqueous	1	1	1	1	1	1	1	1	1	1	2	1	
copper cyanide	3	1	1	1			1	1	1	1	1	1	
copper fluoride, aqueous	-	-		1	1	1	1	1	1	1	3	1	3
copper hydroxide	1	1	1	1						1	1		
copper nitrate, aqueous	3	-	3	-	1	1	1	1	1	1	1	1	1
copper sulfate, aqueous	2	2	2	3	1	1	1	1	1	1	1	1	2
cottonseed oil	1	1	1	1	1	1	1	2	2	1	2	1	
creosote (coal tar)	-	-	-	2			3	-	1	-	-	-	
cresols	-	-	-	2	3	-	3	-	1	3	-	1	-
crotonaldehyde (butenal)	3	-	2	3	-	1	1	1	1	1	1		
crude oil → oil													
cumene → isopropylbenzene													
cyanalci → potassium cyanide													
cyclohexane	1	2	1	2	-	1	1	2	-	-	1	-	1
cyclohexanol	3	-	3	-	-	1	1	1	-	2	1	-	1
cyclohexanone	-	-	-	-	1	1	2	-	-	-	2	1	1
cyclohexylamine	-	-	1	1	-	-	-	3	-	-	-	1	
DEKALIN	1	1	1	1	-	-	-	-	1	-	1	-	
detergents, generally (see exact media)	2	3	1	2	1	3	1	1	1	1	1	2	3
developing dyes, generally (see exact media)	2	2	1	1	1	1	1	1	1	1	1	1	1
dextrin, aqueous			1	1	1	1	1	1	1	1	1	1	1
dextrose → glucose													
di... → sebacic esters													
diacetone alcohol	2	-	2	-	-	1			3	2	-	2	1
dibenzylether	-	-	-					-	3	1	3	1	
dibutyl ether	-	-	2	-	3	-	-	-	2	3	-	1	1
dibutyl phthalates → phthalic ester													
dibutylamine	-	-	-	-	-	-	-	-	-	-	3	1	
dichloroacetic acid	-	-			2	3	2	3	-	1	1	3	-
dichloroacetic acid → chloroacetic acid													
dichlorobenzenes	-	-	-	1	1	3	-	-	-	1	-	1	1
dichloroethanes	-	-	-	1	1	3	-	-	-	2	-	1	1
dichloroethylenes	-	-	-	-	-	-	-	-	-	2	-	1	1
dichloromethanes → chloromethanes													
dichloropropanes				-						-	1		
diesel, -fuel/-oil → gasoline, diesel-													
diethanolamine (iminodiethanol)				1	1	1	1				2	1	
diethyl ether	1	1	-	1	1	3	3	3	3	-	-	1	1
diethyl sebacat → sebacic esters													
diethylamine	-	-	-	3	-	3	-	-	3	-	2	1	
diethylbenzene	-	-	1	-	-	-	-	-	1	-	1		
diethylene glycol	3	3	2	1	1	1	1	1	1	2	1	2	-
diglycol → diethylene glycol													
diglycolic acid, aqueous	-	-	1	3	1	1	1	1	2	1	3	1	2
diluents → see exact media													
dimethyl ether	3	3	-	2			-	3	-	-	1	1	
dimethylamine	-	-	-	3	3	-	1	-	2	-	-	1	1
dimethylanilin (xylidines)	2	2	-	-	-	-	-	3	2	2	1		
dimethylformamide	-	-	-	1	1	2	-	2	-	3	-	2	1
dimethylheptanon	-	-	-		3	-			-	-	1		
dinonyl phthalate → phthalic ester													
dioctyl phthalate → phthalic ester													
diocetyl sebacat → sebacic esters													
dioxane	-	-	-	1	1	2	3	2	3	-	3	-	1
dipentene → limonene													
diphenyl	-	-	-	2		-	-	-	1	-	1	1	
diphenyl chloride	-	-	-	1				-	1	2	1		
diphenyl ether	-	-	-	1	1	2	3	-	-	2	-	1	2
dipropylene glycol				1				1	1	2	1		
dodecanol (lauryl alcohol, 1-dodecanol)	1	1	1	1	1	1	1	1	1	1	2	1	
Eau de javelle → potassium hypochlorite													
epichlorhydrin	-	-	-	1	1	1		-	3	-	-	1	1
essential oil of, generally	2	2	-	1	1	3	-	-	1	3	1	1	
ethane	1	1	1	1	1	1	3	-	2	3	-	1	1
ethanol amines → aminoethanols													
ethanol, 10% (ethyl alcohol, spirit)	2	3	1	2	1	3	1	1	1	1	1	1	2
ethanol, 100% (ethyl alcohol, spirit)	2	-	1	3	3	-	1	1	1	1	1	2	1
ethanthiol	-	-					-	2	-	3	1		
ethene → ethylene													
ethers → ethylene													
ethyl acetate → acetic acid ethyl ester													
ethyl acrylate → acrylic esters													
ethyl alcohol → ethanol													
ethyl chloride	-	-	-	1	1	3	-	-	3	3	-	2	1
ethyl ether → diethyl ether													

Chemical Resistance Table

	Ester-PUR 20°C 60°C	Ether-PUR (MHF) 20°C 60°C	Soft-PVC 20°C 60°C	LLDPE (AIRDUC + andPHROAPE) 20°C 60°C	HDPE + LDPE (CP) 20°C 60°C	TPE 20°C 60°C	NEOPRENE + 20°C 60°C	HPV (=CSM) 20°C 60°C	VITON + 20°C 60°C	Silicon 20°C 60°C	PTFE 20°C 100°C	PA 20°C 60°C	ARAMID 20°C 100°C
media	20°C 60°C	20°C 60°C	20°C 60°C	20°C 60°C	20°C 60°C	20°C 60°C	20°C 60°C	20°C 60°C	20°C 60°C	20°C 60°C	20°C 100°C	20°C 60°C	20°C 100°C
ethylbenzene	-	-	-	1	1	3	-	-	3	-	1	1	
ethylbromide	2	2	-	2			-	-	1	-	1	1	
ethylene	1	1	1	1	1		2	-	1	2	1	1	
ethylene chloride → dichloroethanes													
ethylene chlorohydrin	-	-	-	1	1	1	2	-	2	-	-	1	-
ethylene glycol (glycol)	2	-	1	3	2	1	1	1	1	1	1	1	2
ethylene oxide, gaseous	-	-	-	2	-	2	-	-	3	-	1	3	
ethylenediamine	-	-	-	1	1	2	1	2	2	3	3	1	1
FAM-Fuel → gasoline													
fats → oil													
fatty acids with >7 C-atoms, generally	2	3	1	2	1	2	2	3	3	1	3	1	2
fatty acids with 1-7 C-atoms, generally	3	2	-	3	1	2	2	3	3	1	3	1	2
fatty alcohols, generally (see exact media)	3	2	2	1	1	2	-	3	2	2	2	1	2
fermentation gas (marsh gas)	1	1	1	1	1	1	-	-	1	1	1	1	
fertilizing salt, aqueous	-	3	-	1	1	1	2	1	1	1	1	1	
fir needle oil	2	2	-	-	1	1	2		-	2	3	1	1
fish liver oil	1	1	-	-	1	1	2	-	1	2	1	1	
flight-gasoline → gasoline (kerosene)													
fluorbenzene	-	-	-	-	-	-	-	-	1	-	1		
Fluoride of boron acid 65%	-	-	1	1			3	2	2	-	1		
fluorine, gaseous	-	-	3			-	-	-	1	2	3	1	-
fluorosilicic acid, aqueous	-	-	1	1	2	1	1	2	1	2	1	1	
formaldehyde, aqueous	2	-	2	-	2	3	1	1	1	1	1	2	3
formamide	-	-	-	-	1	1	1	1	1	1	1	2	3
formic acid, 100%	-	-	2	-	1	1	1	2	-	2	3	-	3
formic acid, 3%	2	-	1	2	1	1	1	1	1	2	-	1	3
formic acid, 10%	3	-	2	-	1	2	1	1	1	3	2	-	2
freon R11 (frigen)	3	3							1	1	-	1	1
freon R113 (frigen)	3	3							1	2	1		
freon R114 (frigen)	1	1	1						1	2	-	1	1
freon R12 (frigen)	3	3	2		-				1	2	-	1	1
freon R22 (frigen)	3	3				-			-	-	-	1	1
fruit juice, fruit wine	2	3	2	3	1	1	1	1	1	1	1	1	
fungi → microbes													
furan	-	-	1	-			-	-	-	-	1		
furfural	-	-	-	1	1	3	-	-	3	3	-	3	1
gallic acid	-	3	-	1	1	1	1	1	3	1	2	1	2
gasohol									-	-	-	1	
gasoline, ASTM-Fuel A	1	1	3	-			-	1	1	1	3	1	
gasoline, ASTM-Fuel B	3	3	3	-			-	-	1	3	1	1	
gasoline, ASTM-Fuel C	-	-	3	-				-	1	-	1		
gasoline, diesel/ diesel oil/ heating oil	1	1	3	-	1	1	2	3	-	-	1	1	1
gasoline, FAM-Fuel DIN S1604-A	1	1	3	-			-				1		
gasoline, FAM-Fuel DIN S1604-B	2	2	3	-							1		
gasoline, FAM-Fuel DIN S1604-C	3	2	3								1		
gasoline, flight- (kerosene)	1	1	3	-	1	1	2	3	-	1	-	1	1
gasoline, generally (see exact media)	1	1	3	-	1	1	2	3	-	1	-	1	1
gasoline, white spirits	1	2	1	2	3	1	2	-	-	1	-	1	
gasoline-benzene (50/ 50%)	3	3	3				-	-	2	-	1		
gasoline-benzene (60/ 40%)	2	2	3	-			-	-	2	-	1		
gasoline-benzene (70/ 30%)	2	2	3	-			-	-	1	3	1	1	
gasoline-benzene (80/ 20%)	2	2	3	-	3	2	3	-	-	1	3	1	1
gasoline-benzene-ethanol (50/30 / 20%)	3	3	3	-	-		-	-	-	-	1		
gear lubricant → oil													
gelatin	2	3	1	2	1	1	1	1	1	1	1	1	
Glauber's salt → sodium sulfate													
glucose (dextrose)	2	3	1	2	1	1	1	1	1	1	1	1	1
glue (e.g. for wood)	2	2	1	1	1	1	1	1	1	1	1	1	1
glycerol	1	1	1	1	3	1	1	1	1	1	1	1	1
glycine, aqueous 10%	-	-	1				1		2	3	1	2	3
glycol → ethylene glycol													
glycolic acid, 30%	-	3	-	1	1	1	1	1	1	1	1	1	-
grape juice → fruit juice													
grape sugar → glucose													
HCFC → freon													
heating oil → gasoline, diesel													
helium	1	1	1	1	1	1	1	1	1	1	1	1	1
heptane	1	1	1	-	-	1	2	-	3	2	3	1	1
hexachlorocyclohexane → lindane													
hexanal	-	-		1				2	-	-	-	1	1
hexane	1	2	1	2	-	1	1	3	-	1	2	1	1
hexanetriol	-	-	1	1	1	1	1	1	1	1	1	1	1
hexanol	-	-	-	1	1	1	1	-	2	1	1	1	-
hexene	1	1	1	1				2	3	1	-	1	1
hydraulic fluid, hydraulic oils DIN S1 524	1	1	1	1	3				-	1	1	3	1
hydraulic fluid, oil-in-water-emulsion HFA	1	1	1	1			-		3	1	3	1	1
hydraulic fluid, phosphoric esters HFD	-	-	-						-	2	-	1	1
hydraulic fluid, polyglycol-water HFC	2	-	1	3					1	1	2	1	2
hydraulic fluid, water-oil-emulsion HFB	-	-							2	1	1	1	1
hydrazine	-	-	1	2	1				3	3	-	-	1
hydrazine hydrate	3	-	2	3	1	1	1	2	1	1	-	3	1
hydrobromic acid 50%	-	3	-	1	1	1	1	1	1	1	1	1	-
hydrochloric acid, 3%	3	-	1	2	1	1	1	1	1	1	1	1	2
hydrochloric acid, 10%	-	2	3	1	2	1	1	1	2	3	1	1	-
hydrochloric acid, 40%	-	-	2	3	1	1	2	3	3	2	3	1	-

	20°C 60°C	Ether-PUR 20°C 60°C	Soft-PVC 20°C 60°C	LLDPE (AIRDUC [®] and PROTAPE) 20°C 60°C	HDPE + LDPE (CP) 20°C 60°C	TPE 20°C 60°C	NEOPRENE [®] 20°C 60°C	HYP (L-CSM) 20°C 80°C	VITON [®] 20°C 80°C	Silicon 20°C 80°C	PTFE 20°C 100°C	PA 20°C 60°C	ARAMID 20°C 100°C	
media	20°C 60°C													
hydrochlorofluorocarbons (HCFC) → freon														
hydrofluoric acid 10%	3	-	2	-	1	1	1	1	2	2	3	1		2
hydrofluoric acid 40%	-	-	3	-	1	2	3	2	1	1	2	3	-	-
hydrofluoric acid 70%	-	-	3	-	-	3	-	2	1	1	3	-	-	1
hydrogen	1	1	1	1	1	1	1	1	1	1	1	1	1	1
hydrogen chloride, -gas/-acid → hydrochloric acid														
hydrogen cyanide	3	2	-	1	3	1	1	1	3	2	-	3	-	1
hydrogen peroxide, 3%	1	2	1	2	1	1	1	2	3	1	2	1	1	-
hydrogen peroxide, 30%	2	-	2	-	2	3	1	2	3	2	1	1	1	-
hydrogen sulfide, dry or wet	3	-	3	-	-	1	1	1	1	3	1	1	1	1
hydrogen sulfites	-	3	-	1	-	1	1	2	1	2	3	1		
hydroquinone, aqueous	-	-	1	3	1	1	1	1	2	1	1	3	1	
hydrosilicofluoric acid, aqueous	-	-	-	1	-	-	-	2	-	-	-	-	1	
hydroxylamine sulfate	-	-	-	1	-	-	1	1	1	1	1	1		
ink, for writing	1	1	1	1	1	1	1	1	3	1	1	1	1	
iron sulfates, aqueous	2	3	1	2	1	1	1	1	1	1	1	1	1	
iron(III)-chloride, aqueous 10%	2	3	1	2	1	1	1	1	2	1	1	1	1	3
isobutylalcohol	-	-	-	1	1	1	1	1	1	1	1	1	1	2
isooctane	1	2	1	3	-	1	1	2	-	3	1	1	2	1
isooctanol	-	-	-	-	1	-	-	3	2	1	3	1	0	
isophorone	3	3	-	-	-	-	-	-	-	-	-	-	1	
isopropanol (isopropyl alcohol)	2	-	1	-	3	-	1	1	1	1	1	1	2	-
isopropylacetate	3	-	2	-	3	-	1	1	2	-	-	3	1	1
isopropylbenzene (cumene)	-	3	-	3	-	-	-	-	-	-	1	-	1	
isopropylchloride	-	-	-	-	-	-	-	-	-	1	-	1		
isopropylether	3	-	2	-	3	1	1	3	-	-	2	3	-	1
Javel water → sodium hypochlorite														
kerosene → gasoline (kerosene)														
ketones, generally (see exact media)	-	-	-	-	1	1	2	3	2	3	-	-	2	3
kresols → cresols														
lacquers → see exact media/ solvent														
lactic acid, aqueous 3%	2	3	1	2	1	2	1	1	1	1	1	1	1	2
lactic acid, aqueous 50%	-	-	-	3	-	1	1	1	1	1	1	3	1	-
lactic acid, aqueous10%	3	-	2	3	2	3	1	1	1	1	1	1	1	3
lanolin (wool fat)	1	1	1	1	2	-	1	1	1	2	-	3	1	3
laughing gas	1	1	1	1	1	1	1	1	1	1	1	1	1	1
lauryl alcohol → dodecanol														
lavender oil	2	2					-	2	-	-	1	-	1	1
lead acetates, aqueous	1	1	1	1	1	1	1	1	2	1	1	1	1	2
lead arsenate, aqueous	3	1	1	1	1			1		1	1	1		
lead nitrate, aqueous	2	1	1	1	1	1	1	1	1	1	2	1		
lead sulfate	1	1	1	1	1	1	1	1	1	1	1	1		
lemon juice	2	1	1	1				1	1	1	2	1	2	
lighting gas (illuminating gas) → town gas														
lime → calcium hydroxide														
lime → calcium oxide							1							
lime, burned → calcium oxide														
lime, milk of- (lime water) → calcium hydroxide														
limonene (dipentene)	2	2			-	-		-	1	2	1			
lindane → hexachlorocyclohexane														
linoleic acid	2	1				-		-	2	3	1			
linseed oil (flaxseed oil)	2	3	2	3	2	-	1	1	2	3	2	1	1	1
liquefied gas (LPG) → see exact media														
liquid ammonia → ammonia														
liquide manure	-	1	1	1	1		1	1	1	1	1			
lithium bromide	1	1			1	1	1	1	1	1	2	1	-	
lithium chloride	1	1	1	1	1	1	1	1	1	1	1	1	-	
lubricating oils/ greases → oil														
machine oils → oil														
magnesium chloride, aqueous 10%	1	-	1	3	1	2	1	1	1	1	1	1	1	1
magnesium hydroxide, aqueous	1	1	1	1	1	1	1	1	1	1	1	1	1	1
magnesium silikates (talc)	1	1	1	1	1			1	1	1	1	1	1	1
magnesium sulfate, aqueous	1	2	1	2	1	1	1	1	1	1	1	1	1	1
magnesium sulfites, aqueous	3	1	1	1				1	1	1	1	1	1	1
maize germ oil	2	3	2	3	2	3	1	2	-	1	1	2	1	1
maleic acid, aqueous	3	-	2	3	1	3	1	1	2	1	2	3	1	2
malic acid, aqueous (apple juice)	-	3	-	1	1	1	1	1	1	1	1	1	1	1
margarine	1	1	1	1	2	1	1	2	-	2	3	1	1	1
marsh gas → fermentation gas														
mash	1	1	1	1	1	1	1	1	1	1	1	1	1	1
MEK → methyl ethyl ketone														
melamine			-				-		1	3	1			
menthol	3	-	3	-	1	1	2	-	1	1	1	-	1	2
mercury	1	1	1	1	1	1	1	1	2	1	1	1	1	2
mercury nitrates	2	-	2	3	1	1	1	1		1	1	1	1	1
mercury salts, aqueous generally	-	-	2	1	1	1	1	1	1	1	1	1	1	1
mercury(II)-chloride	2	-	2	3	3	-	1	1	1	1	1	1	1	-
mesityl oxide	-	-	-	-	3			-	-	-	-	1		
methane	1	1	1	1	1		-	2	1	3	-	1	1	1
methanol (methyl alcohol)	2	-	2	3	3	-	1	1	1	2	1	1	3	3
methyl acetate	-	-	3	-	1	1	1	1	2	-	-	-	1	1
methyl acrylate	-	-	-	-	-		2	-	-	-	-	1		
methyl alcohol → methanol														1
methyl bromide	-	-	-	-	3	-	-	-	-	2	-	1		
methyl chloride → chloromethanes							-							

All stated dimensions, sizes and technical data are approx.- figures based on a temperature of 20 °C. Engineering modifications subject to change.

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Chemical Resistance Table

media	20°C 60°C	Ester-PUR 20°C 60°C	Ether-PUR (MHF) 20°C 60°C	Soft-PVC 20°C 60°C	LDPE (AIRDUC * and PROTAP) 20°C 60°C	HDPE + LDPE (CP) 20°C 60°C	TPE 20°C 60°C	NEOPRENE * 20°C 60°C	HYP (CSM) 20°C 80°C	VITON* 20°C 80°C	Silicon 20°C 80°C	PTFE 20°C 100°C	PA 20°C 60°C	ARAMID 20°C 100°C
methyl chloroform → trichloroethanes														
methyl ethyl ketone (MEK)	-	-	-	1	2	3	3	-	-	-	-	1	2	
methyl glycol → ethylene glycol							3							
methyl isobutyl ketone	-	-	-	2		3	-	-	-	-	-	1	2	
methyl pyrrolidone (NMP)	-	-										2		
methylamine, aqueous	-	-	3	-	1		1	2	1	-	-	1		
methylated spirit → ethanol														
methylen chloride → chloromethanes														
microbes (microorganisms)	-	-	1	1	1	2	3	2	3		1	1	1	1
milk	1	1	1	1	1	1	1	-	1	1	1	1	1	1
mine gas → methane														
mineral oil → oil														
mixed acid: sulfuric acid + nitric acid + water	-	-	-	1	-	3	-	-	-	-	-	1	-	
mixed acid: sulfuric acid + phosphoric acid + water	-	-	2	1	-	2	2	1	1	-	-	1	3	
molasses	3	-	2	-	1	2	1	1	1	2	1	1	1	1
morpholine	-	-	-	1	1	1	1	2	3	1	2	1	-	
motor oils (engine oils) → oil														
must (fruit wine)	1	1	1	1	1	1	1	1	1	1	1	1	1	
mustard	1	1	1	1	1	1	1	1	1	1	1	1	1	
myristyl alcohol (tetradecanol)	1	1	1						1	1	1	2	1	
naphtha	2	2	-	1	2	3	3	-	3	-	1	-	1	1
naphthalene	3	-	3	-	1	1	2	-	-	3	-	1	1	1
natural gas, dry	1	1	1	1	1	1	1	1	3	-	1	3	-	1
natural gas, wet with >7 C-atoms	1	1	3	-	1	2	3	3	1	2	3	1	1	1
natural gas, wet with 1-7 C-atoms	2	2	-	1	3	-	1	2	3	1	-	1	1	
nickel acetate	-	-	-	1	1	1	1	2	-	-	3	1	1	
nickel chloride	2	-	3	1	1	1	1	2	1	1	2	1	1	
nickel sulfate	2	3	1	2	1	1	1	1	1	1	1	2	1	2
nitric acid, 10%	-	-	2	3	1	1	2	1	2	3	-	1	-	3
nitric acid, 25%	-	-	3	-	1	2	3	2	3	2	3	-	1	-
nitric acid, 50%	-	-	-	2	-	3	-	2	2	-	1	-	1	-
nitric acid, 100%	-	-	-	-	-	-	3	3	-	3	-	1	-	-
nitrolitriethanol	-	-	-	1			2	2	1	1	1			
nitrobenzene	-	-	-	1	1	-	-	-	3	-	-	1	3	
nitrogen	1	1	1	1	1	1	1	1	1	1	1	1	1	
nitrogen oxides (nitrous fumes)	-	-	-	1	1	1	-	3	3	-	1	1	3	
nitroglycerin	-	-	1	3	1	-		1	1	-	1			
nitromethane	-	-	2	1		3	3	-	-	-	1	2		
nitropropanes	-	-	-			3	-	-	-	-	1	2		
nitrotoluenes	-	-	-	1	1	3	-	-	3	-	1	3	-	
nitrous fumes → nitrogen oxides														
nonyl alcohol nonanol)	-	-	-	1	1	1	1	3	2	1	2	1	3	
octane	1	1	-	1	1	1	-	-	1	-	1	1	1	
octanols (octyl alcohol)	-	-	-	1	1	1	1	1	1	1	2	1	1	
oil, animal	1	1	1	2	3	1	2	3	3	-	3	1	1	1
oil, ASTM-oil nr. 1	1	1	1	3	-	1	2	3	1	2	3	1	1	
oil, ASTM-oil nr. 2	1	1	1	3	-	1	2	3	1	2	3	1	1	
oil, ASTM-oil nr. 3	1	1	1	3	-	1	2	3	1	2	3	1	1	
oil, ATF-	1	1	1	1			3	-	1	1	3	-	1	1
oil, hydraulic → hydraulic fluid														
oil, mineral	1	1	1	3	-	1	2	3	3	-	2	3	1	1
oil, vegetable	1	1	1	2	3	1	1	2	3	2	3	1	1	1
oleic acid	2	3	1	2	3	2	2	-	3	2	3	1	2	
oleum	-	-	-	-	-	-	-	-	1	-	1	-		
olive oil	1	1	1	2	3	1	1	2	3	2	2	3	1	1
oxalic acid, aqueous	3	-	2	3	1	2	1	1	1	3	2	1	2	-
oxiranes → ethylene oxide														
oxygen → air														
ozone	3	3	3	-	-	3	2	1	2	2	1	-		
palm oil	2	2	3	1	1	2	-	3	1	2	1	-		
palmitic acid	1	1	3	1	1	1	3	-	3	-	1	2	1	
para formaldehyde	2	1		1		2		2	1	1				
paraffin (paraffin oil)	1	1	2	-	1	1	3	-	3	-	1	2	1	
pectins	1	1	1	1		1		1	1	1	1	1		
pentachlorophenol	-	-								3	1			
pentanes	1	1	1	-			2	-	1	-	1	3		
pentanols (amyl alcohols)	-	-	-	1	2	3	1	1	1	3	1	1	1	
pentyl acetates	-	-	-	1	2	3	3	-	3	-	-	1	1	
perchloric acid, aqueous	-	-	2	3	2	3	3	-	2	3	1	1	-	
perchloroethylene → tetrachloroethylene														
Perhydrol → hydrogen peroxide														
petrol → gasoline														
petroleum	1	1	-	1	2	-	-	3	-	1	1	3	-	1
petroleum ether	1	1	-	1	2	-	-	1	-	1	-	1	1	
phenol	-	-	-	1	3	-	3	-	1	1	2	3	1	-
phenyl ether → diphenyl ether														
phenylhydrazine	-	-	-	3	-	3	-	3	-	2	3	-	1	
phosgene	-	-	-	-	-	-	-	2	3	2	3	-	1	-
phosphoric acid 3%	2	3	1	2	1	1	1	1	1	1	1	1	3	-
phosphoric acid 50%	-	-	1	2	1	1	2	1	1	1	1	3	-	1
phosphorus trichloride oxide	-	-	-	2	3	2	3	1	1	1	1	-	1	-
photo developer, generally (see exact media)	-	-	2	1	1	1	1	1	1	1	2	1	1	
photo emulsion, generally (see exact media)	-	-	1	1	1	1	1	1	1	2	1	2		
photo fixing, generally (see exact media)	-	-	1		1	1	1	1	1	2	1	1		
phthalates → phthalic ester														

	Ester-PUR 20°C 60°C	Ether-PUR (MHF) 20°C 60°C	Soft-PVC 20°C 60°C	LLDPE (AIRDUC * and PROTAFE) 20°C 60°C	HDPE + LDPE (CP) 20°C 60°C	TPE 20°C 60°C	NEOPRENE * 20°C 60°C	HYP (=CSM) 20°C 80°C	VITON* 20°C 80°C	Silicon 20°C 80°C	PTFE 20°C 100°C	PA 20°C 60°C	ARAMID 20°C 100°C	
media	20°C 60°C	20°C 60°C	20°C 60°C	20°C 60°C	20°C 60°C	20°C 60°C	20°C 60°C	20°C 80°C	20°C 80°C	20°C 80°C	20°C 100°C	20°C 60°C	20°C 100°C	
phthalic ester (phthalates)	-	3	-	1	2	1	2	-	2	3	-	1	1	2
picric acid	3	-	2	3	1	1	1	2	1	3	1	1	2	3
pigs fat → oil, animal														
polychlorinated biphenyls	2	2	3	3	3			3	-	1	-	1		
potash → potassium carbonate														
potash lye 10%	2	3	1	2	1	2	1	1	1	1	2	2	3	1
potash lye 50%	-	3	-	2	3	1	1	2	2	3	1	1	2	3
potassium acetate, aqueous	3	-	3	-	1	1	1	1	1	1	-	1	-	1
potassium aluminium sulfate → alum														
potassium bicarbonate → potassium hydrogencarbonate														
potassium bisulfate → potassium hydrogensulfate														
potassium borate, aqueous	3	-	2	-	1	1	1	1	1	1	1	1	1	1
potassium bromate 10%	-	-	-	1	1	1	2	1	1	1	1	2	3	1
potassium bromide, aqueous	3	-	2	-	1	1	1	1	1	1	1	1	1	2
potassium carbonate, aqueous (potash)	3	-	3	-	1	1	1	1	1	1	1	1	1	1
potassium chlorate, aqueous	3	-	2	-	1	3	1	1	1	1	1	3	-	1
potassium chloride, aqueous	2	-	1	3	1	1	1	1	1	1	1	2	3	1
potassium chromate, aqueous 40%	-	-	1	3	1	1	1	1	1	1	1	2	3	1
potassium cyanide, aqueous	3	-	3	-	2	1	1	1	1	1	2	2	1	1
potassium dichromate, aqueous 40%	-	3	-	2	3	1	1	1	1	2	1	1	3	1
potassium hydrogencarbonate	2	2	1	1	1	1	1	1	1	1	1	1	1	3
potassium hydrogensulfate, aqueous	-	3	-	-	1	1	1	1	1	1	1	2	1	3
potassium hydroxide → potash lye							1							
potassium hypochlorite	-	-	-	1	3			-	3	2	3	1	1	3
potassium iodide, aqueous	-	-	1	1	1	1	1	1	1	1	1	2	3	1
potassium nitrate, aqueous	2	-	1	3	1	1	1	1	1	1	1	2	3	1
potassium perchlorate, aqueous	-	-	1				1	1	1	1	2	3	1	1
potassium permanganate, aqueous 5%	3	-	2	3	2	3	1	1	1	1	1	2	1	-
potassium peroxodisulfate	-	3	-	1	3	1	1	1	1	1	1	3	-	1
potassium phosphates	1	1	1	1				1	1	1	1	-	1	-
potassium sulfate, aqueous	1	3	1	2	1	1	1	1	1	1	1	2	1	1
potassium sulfite	1	1	1	1	1	1	1	1	1	1	1	1	1	1
premium gasoline/ petrol → gasoline														
propane, wet or gaseous	1	1	-	-	3	-	-	1	3	-	1	-	1	1
propargyl alcohol, aqueous 7%	-	-		1	1	1	2	3	2	3	1	1	2	3
propene (propylene)	-	-						-	-	1	-	1	1	1
propionic acid (propane acid)	-	-	1	1	1	2	3	3	-	3	-	2	3	-
propyl acetates	-	-	-	2				-	-	-	-	1	1	1
propylamines	-	-						-	-	-	-	1		
propylene	-	-	2					-	-	1	-	1		
propylene glycols (propanediols)	-	-	-	1	1	1	1	2	1	1	1	1	1	-
propylene oxide	-	-	-	2			1	-	-	-	-	1	3	
prussic acid → hydrogen cyanide														
pyridine	-	-	-	1	2	3	3	-	-	-	-	1	1	
pyrrole	-	-						3	-	3	-	1		
radiation, radioactive 108 Rad	2	2	2	3	3	-	-	1	1		-	-	-	-
radiation, ultraviolet	2	2	2	2	3	3	3	2	2	1	1	2	2	1
radiation, ultraviolet B and C														
rapeseed oil	1	-	1	2	-			3	2	1	-	1	2	
raw sugar juice	-	3	1	1				2	1	1	1	1	1	
refrigerating agent → freon														
resorcinol					1	1	1							
saccharose → sugar														
salicylic acid	2	1	1	3	1	1	1	1	2	1	1	1	1	1
salmiac → ammonium chloride														
salt water → water														
salt, table-salt → sodium chloride														
sea water → water	-	-	-	-	1	1	1	1	1	1	1	1	1	
sebacic esters	-	-	-	-	1	1	1	1	1	1	1	1	1	
silver salts, generally (see exact media)	3	-	3	-	1	3	1	1	2	1	2	2	3	1
silicic acids, aqueous	-	3	-	1	2	1	1	1	1	1	1	1	2	3
silicium dioxide → silicic acids							1							
silicon oil/-fat	1	2	1	2	-	1	1	2	1	2	3	1	2	2
silver nitrate, aqueous	-	-	1	3	1	1	1	2	1	2	1	1	1	1
Skydrol → hydraulic fluid, phosphoric esters														
soap suds → detergents														
soda ash → sodium carbonate														
soda lye → sodium hydroxide														
sodium acetate, aqueous	3	-	2	-	1	1	1	1	1	1	1	1	1	1
sodium benzoate, aqueous	1	1	1	1	1	1	1	1	1	1	1	2	3	1
sodium bi... → sodium hydrogen...														
sodium bromide														
sodium carbonate (soda ash)	3	-	2	3	1	2	1	1	1	1	1	1	1	1
sodium chlorate, aqueous	3	-	2	-	1	1	1	2	1	3	1	1	1	2
sodium chloride, aqueous (table-salt)	2	3	2	3	1	1	1	1	1	1	1	1	1	1
sodium chlorite, aqueous														
sodium cyanide	3	-	3	-	1	1	1	1	1	1	1	1	1	1
sodium dichromate	3	-	3	-	-	1	1	1	1	1	1	2	1	2
sodium fluorides, generally	3	-	3	-	1	1	1	1	1	1	1	2	1	2
sodium hydrogencarbonate, aqueous	3	-	3	-	1	1	1	1	1	1	1	1	1	1
sodium hydrogensulfate	3	-	2	-	1	1	1	1	1	1	1	1	1	1
sodium hydrogensulfate, aqueous 10%	2	-	2	-	1	1	1	1	1	2	1	1	1	1
sodium hydroxide (caustic soda), aqueous 10%	3	-	2	3	1	2	1	1	1	2	2	3	1	1
sodium hydroxide (caustic soda), aqueous 50%	-	-	-	-	-	1	2	2	3	-	-	1	1	2

Chemical Resistance Table

media	20°C	60°C	100°C	Ester-PUR	Ether-PUR (MHF)	Soft-PVC	LDPE (AIRDUC * and PROTAP)	HDPE + LDPE (CP)	TPE	NEOPRENE *	HYP (CSM)	VITON *	Silicon	PTFE	PA	ARAMID
sodium hypochlorite, aqueous 10%	3	-	2	3	1	1	1	3	-	3	1	1	2	-	3	-
sodium metaphosphates	1	1	1	1	1	1	1	1	1	1	2	2	1	1	1	1
sodium nitrate, aqueous 10%	2	3	2	3	1	2	1	1	1	1	1	1	1	2	1	1
sodium nitrite	3	-	2	-	1	1	1	1	1	1	1	1	1	2	3	1
sodium perborate	-	-	2	3	1	1	1	2	1	1	1	1	1	1	3	1
sodium phosphates	2	3	2	3	1	1	1	1	1	1	1	1	1	2	1	2
sodium silicate, aqueous	-	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1
sodium sulfate, aqueous (Glauber's salt)	2	3	1	2	1	1	1	1	1	1	1	1	1	1	1	1
sodium sulfides	2	2	1	1	1	1	1	1	2	1	1	2	1	1	1	1
sodium sulfite, aqueous 3%	1	2	1	2	1	1	1	1	1	2	1	1	1	2	1	1
sodium thiosulfate	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
solvents, generally (see exact media)	-	-	-	-	1	1	3	-	-	-	-	-	-	1	1	2
soybeans oil	1	1	2	-	1	1	2	3	2	3	2	1	1	1	1	1
spirit → ethanol																
spirits	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
starch sugar	2	3	2	3	1	1	1	1	1	1	1	1	1	1	1	1
starch, aqueous	-	-	1	1	1	1	1	1	2	1	1	1	1	1	1	1
steam → water vapor																
steam of oleum	-	-	3	-	-	-	-	-	-	3	3	-	1	-	-	-
stearic acid	3	-	2	3	1	2	1	1	3	2	3	-	1	3	1	1
stone salt (halite) → sodium chloride																
styrene	-	-	-	-	1	1	3	-	-	-	-	2	3	-	1	1
succinic acid, aqueous	-	3	-	1	1	1	1	1	1	1	1	1	1	2	-	1
sugar syrup (saccharose)	2	3	1	2	1	1	1	1	1	1	1	1	1	1	1	1
sugar, dry	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1
sulfonic acids, generally	-	-	1	2	1	1	1	1	2	3	1	1	1	1	1	1
sulfur dioxide → sulfuric acid																
sulfur trioxide (sulfur acid anhydride)	-	-	-	3	-	-	-	-	-	-	1	-	1	-	-	-
sulfuric acid, 3%	3	-	1	2	1	1	1	1	1	1	1	1	1	3	1	1
sulfuric acid, 25%	-	3	-	2	3	1	1	2	1	2	1	1	1	3	-	1
sulfuric acid, 50%	-	-	3	-	1	2	2	3	2	3	3	2	3	1	2	-
sulfuric acid, 90% (fuming, oleum)	-	-	-	-	2	3	3	-	-	3	3	-	2	3	-	1
sulphur hexafluoride																
tallow (talcum)	2	3	2	3	1	1	1	2	2	3	1	1	1	1	1	1
tanning acid → tannine																
tannins (tanning acid)	3	2	2	3	1	1	1	1	1	2	1	1	2	1	1	1
tar (tar oil)	-	-	3	-	2	-	-	-	-	-	1	3	1	3	1	3
tartaric acid, aqueous	2	3	1	2	1	1	1	1	1	2	1	1	1	1	1	2
tea tree oil	2	2									1	2	2	3	2	2
tee, aqueous						1	1	1	1	1						
tetrachlorocarbonates → chloromethanes																
tetrachloroethane	-	-	-	-	1	1	3	-	-	-	-	2	3	-	1	1
tetrachloroethylene (perchloroethylene)	-	-	-	-	1	1	-	-	-	-	3	-	1	2	-	1
tetrahydrofuran	-	-	-	-	1	1	-	-	-	-	-	-	-	1	1	1
Tetralin (tetrahydronaphthalene)	-	-	-	-	1	1	3	-	-	-	-	1	-	-	1	1
thionyl chloride	-	-	-	-	-	-	-	-	-	-	1	3	-	1	-	-
thiophene	-	-	-	-	1	1	-	-	-	-	-	-	-	1	1	1
tincture of iodine	-	-	2	2	1	1	1	1	1	3	2	1	-	1	-	1
tin-II-chlorides, aqueous	3	-	2	3	1	2	1	1	2	1	2	3	1	2	1	1
toluene	-	-	-	-	1	1	3	-	-	-	-	2	-	1	1	2
town gas, free of benzene	1	1	1	1	1	1	3	-	-	3	-	1	3	-	1	1
transformer oil → oil																
tributyl phosphate	-	-	-	-	1	1	1	-	-	-	-	-	-	1	3	3
trichloroethanes (methyl chloroform)	-	-	3	1	1	2	3	-	-	-	-	1	-	1	-	1
trichloroacetic acid	-	-	2	1	1	3	-	3	-	3	-	-	-	1	-	-
trichloroethylene	-	-	-	-	1	1	-	-	-	-	-	2	3	-	1	3
trichloromethanes → chloromethanes																
tricresyl phosphate	-	-	-	-	1	1	2	2	-	-	-	2	-	1	1	1
triethylenamine	2	2	2	1							2					
triethylene glycol	2	3	2	3							1	1	2	1		
trisodium phosphates → sodium phosphates																
tung oil → tea tree oil																
turpentine	-	-	-	-	1	1	3	-	-	2	-	1	2	-	1	3
turpentine, oil of	-	-	-	-	3	-	-	-	2	-	1	-	1	1	1	1
urea, aqueous	3	-	3	-	1	1	1	1	1	1	1	1	1	3	-	1
urine	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
varnish	3	2	-	-	1	-	-	-	-	-	1	-	1	-	1	1
vaseline	1	1	3	-	1	1	2	3	-	-	-	1	1	2	1	1
vegetable oil → oil																
vinegar	-	3	2	1						1	1	2	1	1	1	1
vinyl acetate	-	-	-	-	1	-	-	-	-	1	3	3	-	1	1	1
vinyl chloride	-	-	-	-	-	-	2	3	-	-	-	1	-	1	2	2
vitriol oil → oleum																
washing agents → detergents																
waste water	-	1	1							1	1	1	2	1	1	1
water	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1
water vapor (steam) → water																
water, de-ionized → water																
water, demineralized → water																
water, distilled → water																
water, mineral water → water	2	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1
water, sea water/ salt water → eau	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1
water-glass, aqueous	-	3	-	1	2	1	1	1	1	1	1	1	1	2	3	1
weathering, generally	2	2	2	2	3	3	3	3	2	2	2	1	2	2	1	3
whale oils	2	2	2	2	1					1	3	1	1	1	1	1

media	20°C	60°C	100°C	Ester-PUR	Ether-PUR (MHF)	Soft-PVC	LDPE (AIRDUC * and PROTAP)	HDPE + LDPE (CP)	TPE	NEOPRENE *	HYP (CSM)	VITON *	Silicon	PTFE	PA	ARAMID
white oil → paraffin																
white spirits → gasoline																
wine	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
wood oil	3	2	3	2						-	3	1	3	1		
wool fat → lanolin																
XYLAMON	3	3							-	-	-	2	-	1		
xylenes	3	-	3	-	-	1	1	-	-	-	-	2	-	1	1	1
yeast, aqueous	-	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
zinc acetate, aqueous	-	-	-	-	-	-	-	-	-	-	2	-	-	1		
zinc chloride, aqueous	2	3	2	3	1	2	1	1	1	1	1	1	1	1	1	3
zinc sulfate, aqueous	2	3	2	3	1	1	1	1	1	1	1	1	1	1	1	2

All stated dimensions, sizes and technical data are approx.- figures based on a temperature of 20 °C. Engineering modifications subject to change.

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