

Chemical Resistance Table

General:

The mixture of different media can lead both to an improvement 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 chemical and mechanical stress, combined with dynamical factors may affect the performance of every hose additionally.

If plastics come into contact with media, against which according 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.

media	Ester-PUR	Ether-PUR (MHF)	Soft-PVC	LDPE (ARDUC® and PROTAPE)	HDPE + LDPE (CP)	TPE	NEOPRENE®	HYP (CSM)	VITON®	Silicon	PTFE	PA	ARAMID
	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 60°C	20°C 60°C	100°C
acetaldehyde, aqueous	-		1	1			1	1	1	2	1		
acetamide	2	- 2	- 2	- 1 1 2 3	1 2 3	1 2 3	2	2	2	2	1 1 2	1 1 1	2
acetic acid 100%	-	-	-	1 1 1 2	2 3	3	2	-	3	-	1 1 1 2	1 1 1	1 3
acetic acid 3%	-	-	-	-	-	-	-	-	-	-	-	1	
acetic acid ethyl ester (ethyl acetates)	1 1	1 1	2 3	1	1	1	1	2	1 1	1	1 1 1	1 1	1
acetic anhydride			1	1									
acetone	-	-	-	1 1 1 1 3	- 3	3	2 3	3	- 3	- 1	1	1	
acetylacetone	-	-	-	3	1	-	1	-	2	1	2	1	1
acetylene	-	-	-	3	-	3	-	3	-	3	- 1	1	1
acetylsalicylic acid (Aspirin)	3	- 2 3	1 2	1 1 1 1 1 1	1 1 2	1	1 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	1 2	1	1 1	1 1	1	1 1	1 1	2 3	1 1	1	
air, containing oil → oil	1 2	1 2	3	- 1 1 1 2	3	-	2	- 1	1	-	1 1	1	
air, dry	2	- 2	- 2	- 1 1 1 1 2	2	1	1 1 2	2	- 1 1	2	- 1 1 2	-	
air, wet → water vapour	3	- 3	- 3	- 1 1 1 2	1 1	1 3	3	-	-	1	3	-	
alcohols, generally (see exact media)	-	-	-	3	- 2	-	1	-	1	-	1	1	2
aliphatics, generally (see exact media)	-	3	1 1 1 1 1 1	1	1	1	1	-	-	-	1	1	
alkalis, generally (see exact media)	2 3	1 2	1 1	1 1 1 1 1 2	1	1	1	1	-	-	1	1 3	
allyl alcohol	3	- 3	- 1	1 1 1 1 1	1	1	1	1	1	1 3	1	1	
allyl chloride	3	- 2	- 1	1 1 1 1	1	1	1	1	1	1	1	1	
alum, aqueous	3	2	1	1 1 1 1 1	1	1	1	1	2	1	1 3		
aluminium acetates	2	1	1	1 1 1 1 1	1	1	1	1	1	1	1	1	
aluminium chloride, 10%	2	- 1 3	1 1	1 1 1 1 1 2	1	1 1	1 1	1	1	1	1	1	
aluminium fluoride	2	- 1 2	1 1 1 1 1 1	1 2	2	1 1	2	- 1 1	2	- 1 3	1 1 3	- 1	
aluminium hydroxide	3	- 2	- 1 2	1 1 1 1 1 3	2	1 2	3	- 2	- 1	1	- 2		
aluminium nitrate	-	-	- 2	- 1 1 1 1	2	- 2	3	-	-	-	1	- 3	
aluminium phosphates													
aluminium sulfate, aqueous	-	-	-			1	3	3	3	-	1	1	
amines → see exact media													
aminoethanols	-	-	1 1 1 1 1 1 1 1	1 1	1	1	3	-	1 3	1	1 2		
ammonia, aqueous 100%	3	- 1 2	1 1 1 1 1 1 1 1	2	3	-	1 1	1	1	1	1	1	
ammonia, aqueous 3% (liquid ammonia)	-	3	- 1 1 1 1 1 1 1 1	1	1	-	3	-	1 1	1	1		
ammonia, gaseous	-	3	- 1 2	1 1 1 1 1 1	1	1 1	1	1	2	- 1	1		
ammonium acetate, aqueous	1 2	1 2	1 1 1 1 1 1 1 1	1 1	1	1 1	1 1	1	1 1	1 1	1 1	1	
ammonium carbonate, aqueous	3	1	1	1	1	1	1	1	1	1	1	1	
ammonium chloride, aqueous 3% (salmiac)	-	-	1 3	1	1 1	1	1 1 1 2			1 1 1			
ammonium diphosphat, aqueous	1	1	2				1	1	2	1	1	1	
ammonium fluorides, aqueous	3	- 2	- 1 1 1 1 1 2	1 1 2	1 1 2	1 1 2	1 1 1 1 1	1	1	1 1	1 1	1	
ammonium metaphosphat, aqueous	2	- 2	- 1 1 1 1 1 1 1 1	1 1	1 1 1 1 1	1 1	1 1 1 1 1	1	1	1 1	1 1	1	
ammonium nitrate, aqueous	1	- 1 3	1 1 1 1 1 1 1 1	1 1	1 1	1 1 1 1 1	1 1 1 1 1	1 1	1 1	1 1	1 1	1 1	
ammonium phosphates, aqueous	3	2	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	3	1	3	-	
aniline	-	-	- 2	- 1 1 2 3	3	-	-	-	-	1 1	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	
anone → cyclohexanone	-	-	1 1 1 1 1 1 1 1	1	1	1 2	1 2	3	-	1	-		
anthraquinonesulfonics acid, aqueous	3	- 2	- 1 1 1 1 1 1 1 1	1 1	1 1 1 1 1 1 1	1 1	1 1 1 1 1 2	- 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	
antimony-III-chlorides, aqueous	-	-	-	1 1 2 3	3	- 2	3	- 1 3	-	1 1	1	1	
aqua fortis → nitric acid	3	- 3	- 1 2	1 1 1 1 1 1	2	1 1 1 1 2	- 1	1	1	1	1	1	
aqua regia (nitrohydrochloric acid)	2	- 2	- 2 3	1 1 2 3	2	- 2	3	- 1 3	3	- 1	1	1	
argon													
aromatics, generally (see exact media)													
arsenic acid, aqueous	-	-	1	1				1	1	3	1	1	
asphalt													
ASTM-fuels → gasoline	1 3	1 2	1 1	1 1 1 1 1 1	1 1 1 3	1	1	1	1	1	1	1	
ASTM-oils → oil	3	- 2 3	1 1	1 1 1 1 1 1	1 1 3	1 1 1 1 1 1	1	1	1 1	1	1	1	
ATE-brake fluids → brake fluids	1	1	1	1 1 1 1 1	1 2	1	1	1	1	1	1	1	
ATF-oil → oil	3	- 2 3	1	1 1 1 1 1	2	2	1	1	1	1	1	1	
azurit → cupric hydroxide	1	1	1	1 1 1 1 1	2	2	2	1	2	1	1	1	
barium chloride, aqueous	-	-	-	1 3	- 1	-	-	3	-	1	3	- 1	
barium hydroxide, aqueous	1	1	3	- 1 1 2 3	-	1	-	1 1 3	-	1 1	1	1	
barium sulfate	1	1	3	-	-	1	1	1	3	1	1	1	
barium sulfide	3	3	3	-	-	-	-	1	3	1	1	1	
basic aluminium acetate → aluminium acetates	-	-	3	-	-	-	-	1	-	1	-	1	
battery acid → sulfuric acid	1	1	3	- 1 1 2 3	-	-	-	1 1 3	1	1	1	1	
beef tallow (beef fat) → oil, animal	1	1	3	-	-	-	-	1	3	1	1	1	
beer	2	2	3	-	-	-	-	-	-	-	-	-	
benzaldehyde	3	2	3	-	-	-	-	-	-	-	-	-	
benzene	1	1	3	- 1 1 2 3	-	1	-	1	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	1	
bismuth carbonates	2	2	3	- 3	2 3	-	-	1	1	3	1	1	

