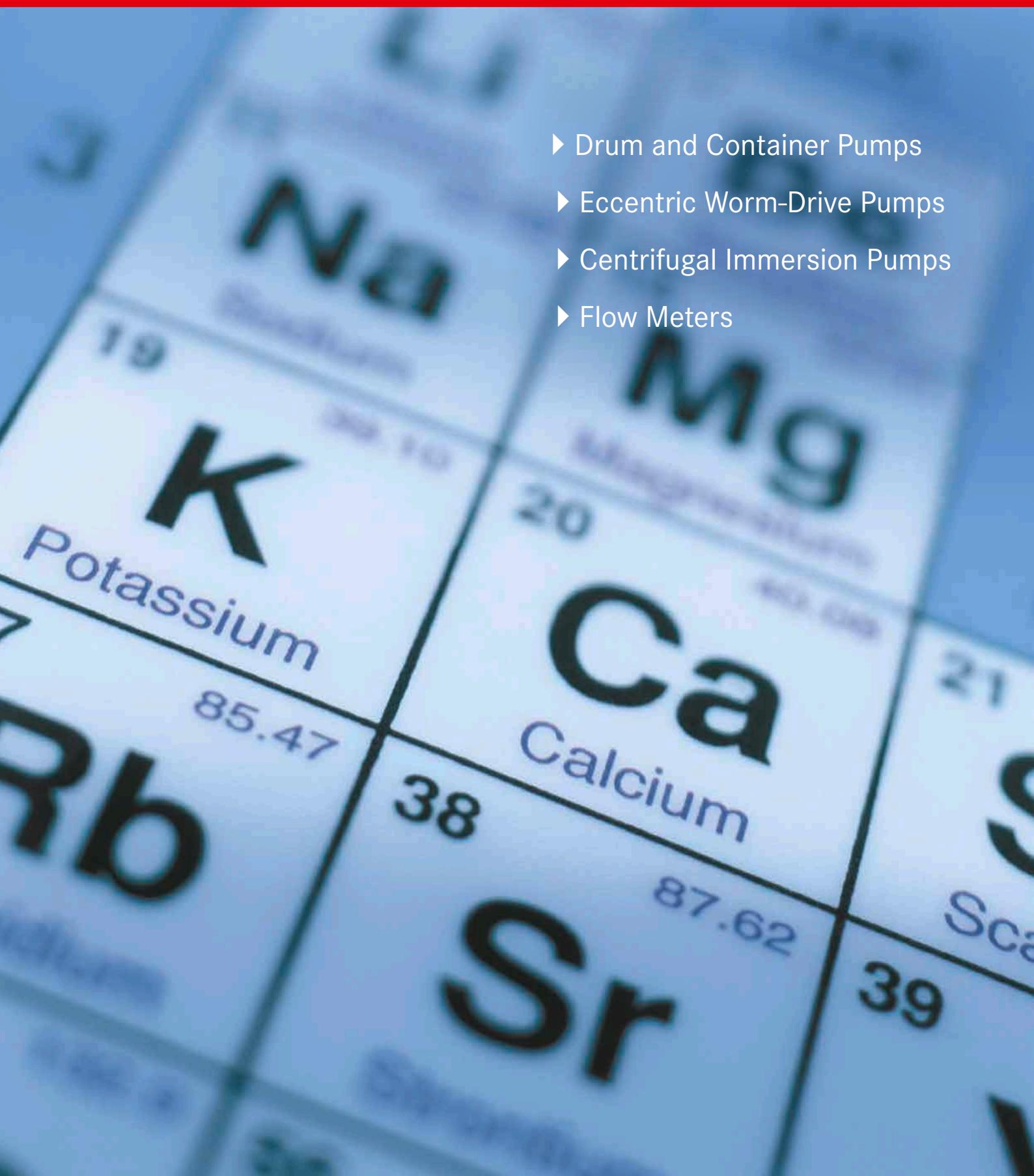


# Resistance Chart



More than just pumps

- ▶ Drum and Container Pumps
- ▶ Eccentric Worm-Drive Pumps
- ▶ Centrifugal Immersion Pumps
- ▶ Flow Meters



# Construction materials of pumps and flow meters ...



**... show very different characteristics. Not every material suits every liquid to the same extent.**

The FLUX Resistance Chart assists you in selecting your pump and/or flow meter. It is a clearly arranged guide to show you which material suits which liquid or – the other way round – which "combinations" you should better avoid. Please consider that the chemical resistance of the construction material depends on many parameters. Even slight variations of a liquid (e.g. impurities) may have a great influence on the chemical resistance of this product.

If there are no particular indications given in this chart, the information is based on commercial purity and concentration. In case of doubt, especially for new and unknown applications, we kindly ask you to contact us for further verification.

The information given in this Resistance Chart is based on recommendations by our suppliers, reports of our clients and on the experience gained by us. This chart has been compiled by our specialists with greatest circumspection. Nevertheless this chart may only serve as a guide. Our classification may not be applied to every condition of use. Considering the multitude of decisive factors, the chemical resistance is an important one, but, in the end, only one element in the totality of operating conditions. This is the reason why we cannot assume any liability for the indications in this Resistance Chart.

## **The indications are as follows:**

- + = resistant
- o = limited resistance
- = not resistant

## **Note**

**For transferring highly flammable liquids, which are underlined in red, only pumps in stainless steel or Hastelloy C together with explosion-proof motors must be used, which are tested and certified according to ATEX-Directive 2014/34/EU. Please observe all relevant Health & Safety Regulations.**



## Resistance Chart

Description	Chemical Formula	Concentration in %	Density [kg/dm³]	Hazard class (VbF)	Temperature [in °C]	Stainless steel (1.4571)	Hastelloy C (2.4610)	Aluminium	PP	PVDF	ETFE	PPS	FKM	NBR	EPDM	PTFE/FEP	FFKM		
Acetaldehyde	CH <sub>3</sub> -CHO	40			20	+	+	+	+	+	+	+	+	-	+	+	+		
Acetaldehyde	CH <sub>3</sub> -CHO	40			40	+	+	+	o	+	+	+	+	-	+	+	+		
Acetaldehyde	CH <sub>3</sub> -CHO	40			60	+	+	o	o	+	+	+	o	-	+	+	+		
Acetaldehyde	CH <sub>3</sub> -CHO	TR 0,79	B	20	+	+	o	o	+	+	+	o	-	o	+	+	+		
Acetaldehyde	CH <sub>3</sub> -CHO	TR			40	+	+	-	-	o	+	+	-	-	o	+	+		
Acetamide	CH <sub>3</sub> -CO-NH <sub>2</sub>	TR 0,98			20	+	+	o	+	+	+	+	+	+	+	+	+		
Acetamide	CH <sub>3</sub> -CO-NH <sub>2</sub>	TR			40	+	+	o	+	+	+	+	+	o	+	+	+		
Acetamide	CH <sub>3</sub> -CO-NH <sub>2</sub>	TR			60	+	+	-	o	+	+	+	+	-	o	+	+		
Acetanhydride	(CH <sub>3</sub> CO) <sub>2</sub> O	TR 1,09	All	20	+	+	+	o	o	+	+	o	-	o	+	+	+		
Acetanhydride	(CH <sub>3</sub> CO) <sub>2</sub> O	TR			40	+	+	+	o	-	+	+	-	-	-	+	+		
Acetanhydride	(CH <sub>3</sub> CO) <sub>2</sub> O	TR			60	+	+	o	o	-	+	+	-	-	-	+	+		
Acetylene Dichloride					see dichlorethylene 1.1														
Acetone	CH <sub>3</sub> -CO-CH <sub>2</sub> H <sub>2</sub> O	10		B	20	+	+	+	+	+	+	+	o	-	+	+	+		
Acetone	CH <sub>3</sub> -CO-CH <sub>2</sub> H <sub>2</sub> O	10			40	+	+	+	+	+	+	+	o	-	o	+	+		
Acetone	CH <sub>3</sub> -CO-CH <sub>2</sub> H <sub>2</sub> O	10			60	+	+	o	o	+	+	+	-	-	-	+	+		
Acetone	CH <sub>3</sub> -CO-CH <sub>2</sub>	TR 0,79	B	20	+	+	+	+	o	+	+	-	-	-	+	+	+		
Acetone	CH <sub>3</sub> -CO-CH <sub>2</sub>	TR			40	+	+	o	+	o	+	+	-	-	o	+	+		
Acetone	CH <sub>3</sub> -CO-CH <sub>2</sub>	TR			60	+	+	o	o	-	+	+	-	-	-	+	+		
Acetonitrile	CH <sub>3</sub> -CN	TR 0,78	B	20	+	+	+	+	o	+	+	o	-	o	+	+	+		
Acetonitrile	CH <sub>3</sub> -CN	TR			40	+	+	+	+	-	+	+	o	-	-	+	+		
Acetonitrile	CH <sub>3</sub> -CN	TR			60	-	+	+	+	-	+	+	o	-	-	+	+		
Acrylonitrile	CH <sub>2</sub> =CH-CN	TR 0,81	AI	20	+	+	+	+	+	+	+	o	-	o	+	+	+		
Acrylonitrile	CH <sub>2</sub> =CH-CN	TR			40	+	+	o	o	+	o	+	o	-	o	+	+		
Acrylonitrile	CH <sub>2</sub> =CH-CN	TR			60	+	+	o	o	+	o	o	-	-	+	+	+		
Butyl Acrylate	C <sub>5</sub> H <sub>10</sub> O <sub>2</sub>	TR		AI	20	+	+	o	-	o	+	+	-	-	o	+	+		
Adipic Acid	C <sub>6</sub> H <sub>12</sub> O <sub>2</sub>	GL 0,89	All	20	+	+	o	+	+	+	+	+	+	+	+	+	+		
Adipic Acid	C <sub>6</sub> H <sub>12</sub> O <sub>2</sub>	GL			40	+	+	-	+	+	+	+	+	+	+	+	+		
Adipic Acid	C <sub>6</sub> H <sub>12</sub> O <sub>2</sub>	GL			60	+	+	-	+	+	+	+	+	+	+	+	+		
Accumulator Acid				see sulphuric acid 40 %															
Alum				see potassium aluminium sulphate															
Allyl Alcohol	H <sub>2</sub> C=CH-CH <sub>2</sub> -OH	96 0,87	B	20	+	+	o	+	+	+	+	+	o	+	o	+	+		
Allyl Alcohol	H <sub>2</sub> C=CH-CH <sub>2</sub> -OH	96			40	+	+	o	+	+	+	+	-	+	o	+	+		
Allyl Alcohol	H <sub>2</sub> C=CH-CH <sub>2</sub> -OH	96			60	+	+	o	+	+	+	+	-	+	o	+	+		
Aluminium Chloride	AlCl <sub>3</sub>	10			20	o	+	-	+	+	+	+	+	+	+	+	+		
Aluminium Chloride	AlCl <sub>3</sub>	10			40	o	+	-	+	+	+	+	+	+	+	+	+		
Aluminium Chloride	AlCl <sub>3</sub>	10			60	o	+	-	+	+	+	+	+	o	+	+	+		
Aluminium Chloride	AlCl <sub>3</sub>	GL 2,40			20	-	+	-	+	+	+	+	+	+	+	+	+		
Aluminium Chloride	AlCl <sub>3</sub>	GL			40	-	+	-	+	+	+	+	+	+	+	+	+		
Aluminium Chloride	AlCl <sub>3</sub>	GL			60	-	o	-	+	+	+	+	+	+	+	+	+		
Aluminium Nitrate	Al(NO <sub>3</sub> ) <sub>3</sub>	GL			20	+	+	-	+	+	+	+	+	+	+	+	+		
Aluminium Nitrate	Al(NO <sub>3</sub> ) <sub>3</sub>	GL			40	+	+	-	+	+	+	+	+	+	+	+	+		
Aluminium Nitrate	Al(NO <sub>3</sub> ) <sub>3</sub>	GL			60	o	+	-	+ <sup>1)</sup>	+	+	-	+	o	+	+	+		
Aluminium Sulphate	Al <sub>2</sub> (SO <sub>4</sub> ) <sub>3</sub>	10			20	+	+	-	+	+	+	+	+	+	+	+	+		
Aluminium Sulphate	Al <sub>2</sub> (SO <sub>4</sub> ) <sub>3</sub>	10			40	+	+	-	+	+	+	+	+	+	+	+	+		
Aluminium Sulphate	Al <sub>2</sub> (SO <sub>4</sub> ) <sub>3</sub>	10			60	+	+	-	+	+	+	+	+	+	+	+	+		
Aluminium Sulphate	Al <sub>2</sub> (SO <sub>4</sub> ) <sub>3</sub>	GL 1,61			20	+	+	-	+	+	+	+	+	+	+	+	+		
Aluminium Sulphate	Al <sub>2</sub> (SO <sub>4</sub> ) <sub>3</sub>	GL			40	o	+	-	+	+	+	+	+	+	+	+	+		
Aluminium Sulphate	Al <sub>2</sub> (SO <sub>4</sub> ) <sub>3</sub>	GL			60	o	o	-	+	+	+	+	+	o	+	+	+		
Formic Acid	HCOOH	50			20	+	+	-	o	+	+	+	+	-	o	+	+		
Formic Acid	HCOOH	50			40	+	+	-	o	+	+	+	+	-	o	+	+		
Formic Acid	HCOOH	50			60	o	+	-	+	+	+	+	o	-	o	+	+		
Formic Acid	HCOOH	85 1,22	All	20	+	+	-	+	+	+	+	+	-	-	+	+	+		
Formic Acid	HCOOH	85	All	40	o	+	-	o	+	+	+	+	-	-	+	+	+		
Formic Acid	HCOOH	85	All	60	o	+	-	+	+	+	+	+	-	-	+	+	+		
Amino Acid Amide				see formamide															

TR = technically pure, GL = saturated solution; H = commercial composition

+ = resistant, o = limited resistance, - = not resistant

<sup>1)</sup> not resistant with flow meter FMC, <sup>2)</sup> Drum pump F 424 with shaft in titanium resistant



## Resistance Chart

Description	Chemical Formula		Concentration in %	Density [kg/dm³]	Hazard class (VbF)	Temperature [in °C]	Stainless steel (1.4571)	Hastelloy C (2.4610)	Aluminium	PP	PVDF	ETFE	PPS	FKM	NBR	EPDM	PTFE/FEP	FFKM
Ammonia water	NH <sub>3</sub> .OH	GL			20	+	+	+	+	+	+	+	-	+	+	+	+	+
Ammonia water	NH <sub>3</sub> .OH	GL			40	+	+	+	+	+	+	+	+	-	o	+	+	+
Ammonia water	NH <sub>3</sub> .OH	GL			60	+	+	+	+	+	+	+	-	o	+	+	+	+
Ammonium acetate	CH <sub>3</sub> .COONH <sub>4</sub> .+H <sub>2</sub> O				20	+	+	+	+	+	+	+	+	+	+	+	+	+
Ammonium acetate	CH <sub>3</sub> .COONH <sub>4</sub> .+H <sub>2</sub> O				40	+	+	o	+	+	+	+	+	+	+	+	+	+
Ammonium acetate	CH <sub>3</sub> .COONH <sub>4</sub> .+H <sub>2</sub> O				60	+ <sup>1)</sup>	+	o	+ <sup>1)</sup>	+	+	o	+	+	+	+	+	+
Ammonium Bromide	NH <sub>4</sub> .Br+H <sub>2</sub> O	40	1,27		20	o	+	-	+	+	+	+	+	+	+	+	+	+
Ammonium Bromide	NH <sub>4</sub> .Br+H <sub>2</sub> O	40			40	o	+	-	+	+	+	+	+	+	+	+	+	+
Ammonium Bromide	NH <sub>4</sub> .Br+H <sub>2</sub> O	40			60	-	o	-	+	+	+	+	+	+	+	+	+	+
Ammonium Carbonate	(NH <sub>4</sub> ) <sub>2</sub> CO <sub>3</sub> .+H <sub>2</sub> O	25			20	+	+	+	+	+	+	+	+	+	+	+	+	+
Ammonium Carbonate	(NH <sub>4</sub> ) <sub>2</sub> CO <sub>3</sub> .+H <sub>2</sub> O	25			40	+	+	+	+	+	+	+	+	+	+	+	+	+
Ammonium Carbonate	(NH <sub>4</sub> ) <sub>2</sub> CO <sub>3</sub> .+H <sub>2</sub> O	25			60	+	+	+	+	+	+	+	+	+	+	+	+	+
Ammonium Chloride	NH <sub>4</sub> .Cl+H <sub>2</sub> O	GL	1,07		20	+	+	-	+	+	+	+	+	+	+	+	+	+
Ammonium Chloride	NH <sub>4</sub> .Cl+H <sub>2</sub> O	GL			40	+	+	-	+	+	+	+	+	+	+	+	+	+
Ammonium Chloride	NH <sub>4</sub> .Cl+H <sub>2</sub> O	GL			60	o	+	-	+	+	+	+	+	+	+	+	+	+
Ammonium Fluoride	NH <sub>4</sub> .F+H <sub>2</sub> O	14			20	o	+	-	+	+	+	+	+	+	+	+	+	+
Ammonium Fluoride	NH <sub>4</sub> .F+H <sub>2</sub> O	14			40	o	+	-	+	+	+	+	+	+	+	+	+	+
Ammonium Fluoride	NH <sub>4</sub> .F+H <sub>2</sub> O	14			60	-	+	-	+	+	+	+	+	+	o	+	+	+
Ammonium Fluosilicate	(NH <sub>4</sub> ) <sub>2</sub> SiF <sub>6</sub> .+H <sub>2</sub> O	TR			20	+	+	-	+	+	+	+	+	+	+	+	+	+
Ammonium Hydrogen Fluoride	(NH <sub>4</sub> )HF <sub>2</sub>	50			20	o	o	-	+	+	+	+	+	-	+	+	+	+
Ammonium Hydrogen Fluoride	(NH <sub>4</sub> )HF <sub>2</sub>	50			40	-	o	-	+	+	+	+	o	-	-	+	+	+
Ammonium Hydrogen Fluoride	(NH <sub>4</sub> )HF <sub>2</sub>	50			60	-	o	-	+	+	+	+	o	-	-	+	+	+
Ammonium Monophosphate																		
Ammonium Nitrate	NH <sub>4</sub> .NO <sub>3</sub> .+H <sub>2</sub> O	10			20	+	+	+	+	+	+	+	+	+	+	+	+	+
Ammonium Nitrate	NH <sub>4</sub> .NO <sub>3</sub> .+H <sub>2</sub> O	10			40	+	+	+	+	+	+	+	+	+	+	+	+	+
Ammonium Nitrate	NH <sub>4</sub> .NO <sub>3</sub> .+H <sub>2</sub> O	10			60	+	+	+	+	+	+	+	+	+	o	+	+	+
Ammonium Nitrate	NH <sub>4</sub> .NO <sub>3</sub> .+H <sub>2</sub> O	50	1,23		20	+	+	+	+	+	+	+	+	+	+	+	+	+
Ammonium Nitrate	NH <sub>4</sub> .NO <sub>3</sub> .+H <sub>2</sub> O	50			40	+	+	+	+	+	+	+	+	+	+	+	+	+
Ammonium Nitrate	NH <sub>4</sub> .NO <sub>3</sub> .+H <sub>2</sub> O	50			60	+	+	+	+	+	+	+	+	+	o	+	+	+
Ammonium Nitrate	NH <sub>4</sub> .NO <sub>3</sub> .+H <sub>2</sub> O	50			60	+	+	+	+	+	+	+	+	+	o	+	+	+
Ammonium Nitrate	NH <sub>4</sub> .NO <sub>3</sub> .+H <sub>2</sub> O	50			60	+	+	+	+	+	+	+	+	+	o	+	+	+
Ammonium Nitrate	NH <sub>4</sub> .NO <sub>3</sub> .+H <sub>2</sub> O	GL			20	+	+	+	+	+	+	+	+	+	+	+	+	+
Ammonium Nitrate	NH <sub>4</sub> .NO <sub>3</sub> .+H <sub>2</sub> O	GL			40	+	+	+	+	+	+	+	+	+	+	+	+	+
Ammonium Nitrate	NH <sub>4</sub> .NO <sub>3</sub> .+H <sub>2</sub> O	GL			60	+	+	+	+	+	+	+	+	+	+	+	+	+
Ammonium Oxalate	(COONH <sub>4</sub> ) <sub>2</sub> .+H <sub>2</sub> O	TR	1,50		20	+	+	+	+	+	+	+	+	+	+	+	+	+
Ammonium Oxalate	(COONH <sub>4</sub> ) <sub>2</sub> .+H <sub>2</sub> O	TR			40	+	+	+	o	+	+	+	+	+	+	+	+	+
Ammonium Oxalate	(COONH <sub>4</sub> ) <sub>2</sub> .+H <sub>2</sub> O	TR			60	+	+	+	o	+	+	+	+	+	o	+	+	+
Ammonium Perchlorate	NH <sub>4</sub> .ClO <sub>4</sub> .+H <sub>2</sub> O	14	1,07		20	+	+	+	o	+	+	+	+	+	o	o	+	+
Ammonium Perchlorate	NH <sub>4</sub> .ClO <sub>4</sub> .+H <sub>2</sub> O	14			40	o	+	o	o	+	+	+	+	-	o	+	+	+
Ammonium Perchlorate	NH <sub>4</sub> .ClO <sub>4</sub> .+H <sub>2</sub> O	14			60	o	o	-	o	+	+	+	+	-	o	+	+	+
Ammonium Phosphate	NH <sub>4</sub> .H.PO <sub>4</sub> .+H <sub>2</sub> O	10			20	+	+	-	+	+	+	+	+	+	+	+	+	+
Ammonium Phosphate	NH <sub>4</sub> .H.PO <sub>4</sub> .+H <sub>2</sub> O	10			40	+	+	-	+	+	+	+	+	+	o	+	+	+
Ammonium Sulphate	(NH <sub>4</sub> ) <sub>2</sub> SO <sub>4</sub> .+H <sub>2</sub> O	10			20	+	+	+	+	+	+	+	+	+	+	+	+	+
Ammonium Sulphate	(NH <sub>4</sub> ) <sub>2</sub> SO <sub>4</sub> .+H <sub>2</sub> O	10			40	+	+	o	+	+	+	+	+	+	+	+	+	+
Ammonium Sulphate	(NH <sub>4</sub> ) <sub>2</sub> SO <sub>4</sub> .+H <sub>2</sub> O	10			60	+ <sup>1)</sup>	+	o	+ <sup>1)</sup>	+	+	o	+	+	o	+	+	+
Ammonium Sulphate	(NH <sub>4</sub> ) <sub>2</sub> SO <sub>4</sub> .+H <sub>2</sub> O	50	1,28		20	+	+	+	+	+	+	+	+	+	+	+	+	+
Ammonium Sulphate	(NH <sub>4</sub> ) <sub>2</sub> SO <sub>4</sub> .+H <sub>2</sub> O	50			40	+ <sup>1)</sup>	+	o	+ <sup>1)</sup>	+	+	o	+	+	+	+	+	+
Ammonium Sulphate	(NH <sub>4</sub> ) <sub>2</sub> SO <sub>4</sub> .+H <sub>2</sub> O	50			60	+ <sup>1)</sup>	+	o	+ <sup>1)</sup>	+	+	o	+	+	o	+	+	+
Ammonium Sulphate	(NH <sub>4</sub> ) <sub>2</sub> SO <sub>4</sub> .+H <sub>2</sub> O	GL	1,30		20	+ <sup>1)</sup>	+	+	+ <sup>1)</sup>	+	+	o	+	+	+	+	+	+
Ammonium Sulphate	(NH <sub>4</sub> ) <sub>2</sub> SO <sub>4</sub> .+H <sub>2</sub> O	GL			40	+ <sup>1)</sup>	+	o	+ <sup>1)</sup>	+	+	o	+	+	+	+	+	+
Ammonium Sulphate	(NH <sub>4</sub> ) <sub>2</sub> SO <sub>4</sub> .+H <sub>2</sub> O	GL			60	+ <sup>1)</sup>	+	-	+ <sup>1)</sup>	+	+	-	+	+	o	+	+	+
Ammonium Sulphide	NH <sub>4</sub> S+H <sub>2</sub> O	10			20	+	+	-	+	+	+	+	+	+	+	+	+	+
Ammonium Sulphide	NH <sub>4</sub> S+H <sub>2</sub> O	10			40	+ <sup>1)</sup>	+	-	+ <sup>1)</sup>	+	+	o	+	+	o	+	+	+
Ammonium Sulphide	NH <sub>4</sub> S+H <sub>2</sub> O	10			60	+ <sup>1)</sup>	+	-	+ <sup>1)</sup>	+	+	o	+	+	o	+	+	+
Ammonium Nitrate																		
Amyl Acetate	CH <sub>3</sub> -COOC <sub>2</sub> H <sub>5</sub>	TR	0,88	All	20	+	+	+	o	+	+	+	+	-	o	+	+	+

TR = technically pure, GL = saturated solution; H = commercial composition

+ = resistant, o = limited resistance, - = not resistant

<sup>1)</sup> not resistant with flow meter FMC, <sup>2)</sup> Drum pump F 424 with shaft in titanium resistant



## Resistance Chart

Description	Chemical Formula	Concentration in %	Density [kg/dm³]	Hazard class (VdF)	Temperature [in °C]	Stainless steel (1.4571)	Hastelloy C (2.4610)	Aluminium	PP	PVDF	ETFE	PPS	FKM	NBR	EPDM	PTFE/FEP	FFKM			
Amyl Acetate	CH <sub>3</sub> -COOC <sub>2</sub> H <sub>5</sub>	TR			40	+	+	+	-	o	+	+	-	-	-	+	+			
Amyl Acetate	CH <sub>3</sub> -COOC <sub>2</sub> H <sub>5</sub>	TR			60	+ <sup>1)</sup>	+	+	-	o	+	o	-	-	-	+	+			
Amyl Alcohol	C <sub>2</sub> H <sub>5</sub> OH	TR	0,82	All	20	+	+	+	+	+	+	+	+	+	+	+	+			
Amyl Alcohol	C <sub>2</sub> H <sub>5</sub> OH	TR			40	+	+	o	+	+	+	+	+	o	+	+	+			
Amyl Alcohol	C <sub>2</sub> H <sub>5</sub> OH	TR			60	+	+	o	+	+	+	+	o	o	+	+	+			
Amyl Chloride	CH <sub>3</sub> (CH <sub>2</sub> ) <sub>2</sub> Cl	TR	0,87	AI	20	o	+	-	+	+	+	+	o	+	+	+	+			
Amyl Chloride	CH <sub>3</sub> (CH <sub>2</sub> ) <sub>2</sub> Cl	TR			40	-	+	-	o	+	+	+	o	+	+	+	+			
Amyl Chloride	CH <sub>3</sub> (CH <sub>2</sub> ) <sub>2</sub> Cl	TR			60	-	o	-	o	+	+	o	o	o	o	+	+			
Aniline	C <sub>6</sub> H <sub>5</sub> NH <sub>2</sub>	TR	1,01	All	20	+	+	+	o	+	+	+	+	-	o	+	+			
Aniline	C <sub>6</sub> H <sub>5</sub> NH <sub>2</sub>	TR			40	+	+	+	-	o	+	+	o	-	-	+	+			
Aniline	C <sub>6</sub> H <sub>5</sub> NH <sub>2</sub>	TR			60	+ <sup>1)</sup>	+	+	-	o	+	o	o	-	-	+	+			
Anone						see cyclohexanone														
malic acid						see hydroxysuccinic acid														
Arsenic Acid	H <sub>3</sub> ASO <sub>4</sub>	10			20	+	+	-	+	+	+	+	+	+	+	+	+	+	+	+
Arsenic Acid	H <sub>3</sub> ASO <sub>4</sub>	10			40	+	+	-	+	+	+	+	+	+	+	+	+	+	+	+
Arsenic Acid	H <sub>3</sub> ASO <sub>4</sub>	10			60	+	+	-	+	+	+	+	+	+	+	+	+	+	+	+
Arsenic Acid	H <sub>3</sub> ASO <sub>4</sub>	80			20	+	+	-	+	+	+	+	+	+	+	+	+	+	+	+
Arsenic Acid	H <sub>3</sub> ASO <sub>4</sub>	80			40	+	+	-	+	+	+	+	+	+	+	+	+	+	+	+
Arsenic Acid	H <sub>3</sub> ASO <sub>4</sub>	80			60	+	+	-	+	+	+	+	+	+	+	+	+	+	+	+
Caustic Barya						see barium hydroxide														
Caustic Potash Solution						see potassium hydroxide														
Caustic Soda						see sodium hydroxide														
Barium chloride	BaCl <sub>2</sub>	10			20	-	+	o	+	+	+	+	+	+	+	+	+	+	+	+
Barium chloride	BaCl <sub>2</sub>	10			40	-	+	o	+	+	+	+	+	+	+	+	+	+	+	+
Barium chloride	BaCl <sub>2</sub>	25	1,27		20	o	+	o	+	+	+	+	+	+	+	+	+	+	+	+
Barium chloride	BaCl <sub>2</sub>	25			40	o	+	o	+	+	+	+	+	+	+	+	+	+	+	+
Barium Hydroxide	Ba(OH) <sub>2</sub>	GL			20	+ <sup>1)</sup>	+	-	+ <sup>1)</sup>	+	+	o	+	+	+	+	+	+	+	+
Barium Hydroxide	Ba(OH) <sub>2</sub>	GL			40	+ <sup>1)</sup>	+	-	+ <sup>1)</sup>	+	+	o	+	+	+	+	+	+	+	+
Barium Hydroxide	Ba(OH) <sub>2</sub>	GL			60	+ <sup>1)</sup>	+	-	+ <sup>1)</sup>	o	+	o	+	+	+	+	+	+	+	+
Barium Sulphide	BaS	10			20	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Benzaldehyde	C <sub>6</sub> H <sub>5</sub> CHO	1,05			20	+ <sup>1)</sup>	+	+	o	+	+	o	+	o	o	o	+	+	+	+
Benzaldehyde	C <sub>6</sub> H <sub>5</sub> CHO				40	+ <sup>1)</sup>	+	+	o	o	+	o	+	o	o	o	+	+	+	+
Benzaldehyde	C <sub>6</sub> H <sub>5</sub> CHO				60	+ <sup>1)</sup>	+	+	-	o	+	-	+	+	o	o	+	+	+	+
Benzaldehyde	C <sub>6</sub> H <sub>5</sub> CHO	30			20	+ <sup>1)</sup>	+	o	-	+	+	o	+	o	+	-	+	+	+	+
Benzaldehyde	C <sub>6</sub> H <sub>5</sub> CHO	TR	1,05	All	20	+	+	o	o	+	+	+	o	-	o	+	+	+	+	+
Fuel		H	0,73	AI	20	+	+	+	-	+	+	+	+	+	+	-	+	+	+	+
Fuel		H			40	+	+	+	-	+	+	+	+	+	+	-	+	+	+	+
Fuel		H			60	+	+	+	-	+	+	+	+	+	+	-	+	+	+	+
Benzoic acid	C <sub>6</sub> H <sub>5</sub> COOH	10	1,27		20	+	+	+	+	+	+	+	+	+	-	+	+	+	+	+
Benzoic acid	C <sub>6</sub> H <sub>5</sub> COOH	10			40	+	+	o	+	+	+	+	+	+	-	+	+	+	+	+
Benzoic acid	C <sub>6</sub> H <sub>5</sub> COOH	10			60	+	+	o	o	+	+	+	+	-	+	+	+	+	+	+
Benzene	C <sub>6</sub> H <sub>6</sub>	TR	0,88	AI	20	+	+	+	-	+	+	+	+	-	-	-	+	+	+	+
Benzyl Alcohol	C <sub>6</sub> H <sub>5</sub> -CH <sub>2</sub> OH	TR	1,04		20	+	+	+	+	+	+	+	+	+	o	-	+	+	+	+
Benzyl Alcohol	C <sub>6</sub> H <sub>5</sub> -CH <sub>2</sub> OH	TR			40	+	+	+	+	+	+	+	+	+	o	-	o	+	+	+
Benzyl Alcohol	C <sub>6</sub> H <sub>5</sub> -CH <sub>2</sub> OH	TR			60	+	+	+	o	+	+	+	+	o	-	o	-	o	+	+
Benzyl Chloride	C <sub>6</sub> H <sub>5</sub> -CH <sub>2</sub> Cl		1,11	All	20	+	+	-	-	+	+	+	+	+	-	-	+	+	+	+
Benzyl Chloride	C <sub>6</sub> H <sub>5</sub> -CH <sub>2</sub> Cl				40	+	+	-	-	+	+	+	+	+	-	-	+	+	+	+
Benzyl Chloride	C <sub>6</sub> H <sub>5</sub> -CH <sub>2</sub> Cl				60	+	+	-	-	o	+	+	+	+	-	-	+	+	+	+
Succinic acid						see ethane dicarboxylic acid														
Bitter almond oil						see benzaldehyde														
Epsomite						see magnesium sulphate														
Prussic acid						see hydrocyanic acid														
Lead Acetate	C <sub>2</sub> H <sub>3</sub> O <sub>2</sub> Pb	10			20	+	+	-	+	+	+	+	+	+	+	+	+	+	+	+
Lead Acetate	C <sub>2</sub> H <sub>3</sub> O <sub>2</sub> Pb	10			40	+	+	-	+	+	+	+	+	+	+	+	+	+	+	+
Lead Acetate	C <sub>2</sub> H <sub>3</sub> O <sub>2</sub> Pb	10			60	+	+	-	+	+	+	+	+	+	+	+	+	+	+	+

TR = technically pure, GL = saturated solution; H = commercial composition

+ = resistant, o = limited resistance, - = not resistant

<sup>1)</sup> not resistant with flow meter FMC, <sup>2)</sup> Drum pump F 424 with shaft in titanium resistant



## Resistance Chart

Description	Chemical Formula	Concentration in %	Density [kg/dm³]	Hazard class (VbF)	Temperature [in °C]	Stainless steel (1.4571)	Hastelloy C (2.4610)	Aluminium	PP	PVDF	ETFE	PPS	FKM	NBR	EPDM	PTFE/FEP	FFKM		
Lead Acetate	C <sub>4</sub> H <sub>6</sub> O <sub>4</sub> Pb	GL			20	+	+	-	+	+	+	+	+	+	+	+	+		
Lead Acetate	C <sub>4</sub> H <sub>6</sub> O <sub>4</sub> Pb	GL			40	+	+	-	+	+	+	+	+	+	+	+	+		
Lead Acetate	C <sub>4</sub> H <sub>6</sub> O <sub>4</sub> Pb	GL			60	+	+	-	+	+	+	+	+	+	+	+	+		
Chlorine Bleaching					see sodium hypochlorite														
Lead Nitrate	Pb(NO <sub>3</sub> ) <sub>2</sub>	50			20	+	+	+	+	+	+	+	+	+	+	+	+	+	
Lead Tetraethyl	Pb(C <sub>2</sub> H <sub>5</sub> ) <sub>4</sub>	TR	1,66	AIII	20	+	+	+	+	+	+	+	+	o	+	+			
Lead Sugar					see lead acetate														
Borax	Na <sub>2</sub> B <sub>4</sub> O <sub>7</sub> +10 H <sub>2</sub> O	10	1,03		20	+	+	-	+	+	+	+	+	+	+	+	+	+	
Borax	Na <sub>2</sub> B <sub>4</sub> O <sub>7</sub> +10 H <sub>2</sub> O	10			40	+	+	-	+	+	+	+	+	+	+	+	+	+	
Borax	Na <sub>2</sub> B <sub>4</sub> O <sub>7</sub> +10 H <sub>2</sub> O	10			60	+	+	-	+	+	+	+	+	+	+	+	+	+	
Borax	Na <sub>2</sub> B <sub>4</sub> O <sub>7</sub> +10 H <sub>2</sub> O	GL			20	+	+	-	+	+	+	+	+	+	+	+	+	+	
Borax	Na <sub>2</sub> B <sub>4</sub> O <sub>7</sub> +10 H <sub>2</sub> O	GL			40	+	+	-	+	+	+	+	+	+	+	+	+	+	
Borax	Na <sub>2</sub> B <sub>4</sub> O <sub>7</sub> +10 H <sub>2</sub> O	GL			60	+	+	-	+	+	+	+	+	+	+	+	+	+	
Boric acid	H <sub>3</sub> BO <sub>3</sub> +H <sub>2</sub> O	10	1,01		20	+	+	+	+	+	+	+	+	+	+	+	+	+	
Boric acid	H <sub>3</sub> BO <sub>3</sub> +H <sub>2</sub> O	10			40	+	+	+	+	+	+	+	+	+	+	+	+	+	
Boric acid	H <sub>3</sub> BO <sub>3</sub> +H <sub>2</sub> O	10			60	+	+	+	+	+	+	+	+	+	+	+	+	+	
Boric acid	H <sub>3</sub> BO <sub>3</sub> +H <sub>2</sub> O	GL			20	+	+	-	+	+	+	+	+	+	+	+	+	+	
Boric acid	H <sub>3</sub> BO <sub>3</sub> +H <sub>2</sub> O	GL			40	+	+	-	+	+	+	+	+	+	+	+	+	+	
Boric acid	H <sub>3</sub> BO <sub>3</sub> +H <sub>2</sub> O	GL			60	+	+	-	+	+	+	+	+	+	+	+	+	+	
Boron trifluoride	BF <sub>3</sub> +H <sub>2</sub> O	10			20	o	o	-	+	+	+	+	+	+	+	+	+	+	
Brake Fluid	Glykolether					+	+	+	+	+	+	+	+	-	-	+	+	+	
Bromine	Br <sub>2</sub>	TR	3,19		20	-	+	-	-	+	+	-	o	-	-	+	+	+	
Bromine potash					see potassium bromide														
Bromic Acid	HBrO <sub>3</sub>	10			20	o	+	-	+ <sup>1)</sup>	+	+	o	+	-	+	+	+	+	
Bromic Acid	HBrO <sub>3</sub>	10			40	-	+	-	+ <sup>1)</sup>	+	+	o	+	-	+	+	+	+	
Bromic Acid	HBrO <sub>3</sub>	10			60	-	+	-	o	+	+	o	+	-	o	+	+	+	
Bromhydric acid	HBr + H <sub>2</sub> O	10	1,07		20	-	o	-	+ <sup>1)</sup>	+	+	o	+	-	+	+	+	+	
Bromhydric acid	HBr + H <sub>2</sub> O	10			40	-	o	-	+ <sup>1)</sup>	+	+	o	+	-	+	+	+	+	
Bromhydric acid	HBr + H <sub>2</sub> O	10			60	-	-	-	+ <sup>1)</sup>	+	+	o	+	-	o	+	+	+	
Bromhydric acid	HBr + H <sub>2</sub> O	48	1,44		20	-	o	-	+ <sup>1)</sup>	+	+	o	+	o	+	+	+	+	
Bromhydric acid	HBr + H <sub>2</sub> O	48			40	-	o	-	+ <sup>1)</sup>	+	+	o	+	-	+	+	+	+	
Bromhydric acid	HBr + H <sub>2</sub> O	48			60	-	-	-	+ <sup>1)</sup>	+	+	o	+	-	o	+	+	+	
Butane Carbonic Acid					see butyric acid														
Butanol	C <sub>3</sub> H <sub>8</sub> OH	TR	0,81	All	20	+	+	+	+	+	+	+	+	+	+	+	+	+	
Butanol	C <sub>3</sub> H <sub>8</sub> OH	TR			40	+	+	+	o	+	+	o	o	+	+	+	+	+	
Butanol	C <sub>3</sub> H <sub>8</sub> OH	TR			60	+	+	+	o	+	+	-	o	+	+	+	+	+	
Butanone (MEK)	C <sub>3</sub> H <sub>6</sub> O	TR	0,81	AI	20	+	+	-	+	-	+	o	-	-	+	+	+	+	
Butanone (MEK)	C <sub>3</sub> H <sub>6</sub> O	TR			40	+	+	-	o	-	+	-	-	-	o	+	+	+	
Butanone (MEK)	C <sub>3</sub> H <sub>6</sub> O	TR			60	+	+	-	o	-	+	-	-	-	o	+	+	+	
Butane Triol	C <sub>4</sub> H <sub>10</sub> O <sub>3</sub>	TR			20	+	+	-	+	+	+	+	o	+	+	+	+	+	
Butenal, trans-2-					see propylene aldehyde														
Butyric Acid	C <sub>3</sub> H <sub>6</sub> COOH	20	0,88		20	+	+	+	-	+	+	+	+	-	+	+	+	+	
Butyric Acid	C <sub>3</sub> H <sub>6</sub> COOH	TR	0,96		20	+	+	+	-	+	+	+	o	-	o	+	+	+	
Butyl Acetate	C <sub>6</sub> H <sub>12</sub> O <sub>2</sub>	TR	0,88	All	20	+ <sup>1)</sup>	+	+	o	+	+	+	o	-	+	+	+	+	
Butyl Acrylate					see butyl acrylate														
Butyl Alcohol					see butanol														
Butyl Chloride	C <sub>3</sub> H <sub>6</sub> Cl	TR	0,89	AI	20	o	+	-	+	+	+	+	+	-	-	-	+	+	+
Butyl Chloride	C <sub>3</sub> H <sub>6</sub> Cl	TR			40	o	+	-	+ <sup>1)</sup>	+	+	o	-	-	-	+	+	+	+
Butyl Chloride	C <sub>3</sub> H <sub>6</sub> Cl	TR			60	o	+	-	+ <sup>1)</sup>	+	+	o	-	-	-	+	+	+	+
Butane Diol	HO(CH <sub>2</sub> ) <sub>2</sub> OH	10			20	+	+	+	+	+	+	+	+	+	+	+	+	+	
Butane Diol	HO(CH <sub>2</sub> ) <sub>2</sub> OH	10			40	+	+	+	+	+	+	+	+	+	+	+	+	+	
Butane Diol	HO(CH <sub>2</sub> ) <sub>2</sub> OH	10			60	+	+	+	+	+	+	+	+	+	+	+	+	+	
Butane Diol	HO(CH <sub>2</sub> ) <sub>2</sub> OH	TR			20	+	+	+	o	+	+	+	+	-	+	+	+	+	
Butane Diol	HO(CH <sub>2</sub> ) <sub>2</sub> OH	TR			40	+	+	+	o	o	+	+	+	-	+	+	+	+	
Butane Diol	HO(CH <sub>2</sub> ) <sub>2</sub> OH	TR			60	+	+	-	o	+	+	+	+	o	-	+	+	+	

TR = technically pure, GL = saturated solution; H = commercial composition

+ = resistant, o = limited resistance, - = not resistant

<sup>1)</sup> not resistant with flow meter FMC, <sup>2)</sup> Drum pump F 424 with shaft in titanium resistant



## Resistance Chart

Description	Chemical Formula	Concentration in %	Density [kg/dm³]	Hazard class (VbF)	Temperature [in °C]	Stainless steel (1.4571)	Hastelloy C (2.4610)	Aluminium	PP	PVDF	ETFE	PPS	FKM	NBR	EPDM	PTFE/FEP	FFKM
Butyl Ether					see dibutyl ether												
Butylphenol					see butyl phenol												
Butyl Phenol	<chem>HOCH2C(CH3)3</chem>	TR			20	+	+	-	+	+	+	+	o	-	-	+	+
Calcium Bisulphite	<chem>Ca(HSO3)2</chem>	10			20	+ <sup>1)</sup>	+	o	+ <sup>1)</sup>	+	+	o	+	-	+	+	+
Calcium Bisulphite	<chem>Ca(HSO3)2</chem>	GL			20	+ <sup>1)</sup>	+	o	+ <sup>1)</sup>	+	+	-	+	-	+	+	+
Calcium Bisulphite	<chem>Ca(HSO3)2</chem>	GL			40	+ <sup>1)</sup>	+	o	+ <sup>1)</sup>	+	+	-	+	-	+	+	+
Calcium Bisulphite	<chem>Ca(HSO3)2</chem>	GL			60	+ <sup>1)</sup>	+	o	+ <sup>1)</sup>	+	+	-	+	-	+	+	+
Calcium Chlorate	<chem>Ca(ClO3)2H2O</chem>	10			20	+	+	o	+	+	+	+	+	+	+	+	+
Calcium Chloride	<chem>CaCl2H2O</chem>	10			20	+	+	+	+	+	+	+	+	+	+	+	+
Calcium Chloride	<chem>CaCl2H2O</chem>	10			40	+	+	+	+	+	+	+	+	+	+	+	+
Calcium Chloride	<chem>CaCl2H2O</chem>	10			60	o	o	+	+	+	+	+	+	+	+	+	+
Calcium Chloride	<chem>CaCl2H2O</chem>	GL	1,40		20	+	+	o	+	+	+	+	+	+	+	+	+
Calcium Chloride	<chem>CaCl2H2O</chem>	GL			40	+	+	o	+	+	+	+	+	+	+	+	+
Calcium Chloride	<chem>CaCl2H2O</chem>	GL			60	o	+	o	+	+	+	+	+	+	+	+	+
Calcium Hydroxide	<chem>Ca(OH)2</chem>	15			20	+	+	-	+	+	+	+	+	+	+	+	+
Calcium Hydroxide	<chem>Ca(OH)2</chem>	15			40	+	+	-	+	+	+	+	+	+	+	+	+
Calcium Hydroxide	<chem>Ca(OH)2</chem>	15			60	+	+	-	+	+	+	+	+	o	+	+	+
Calcium Hypochlorite	<chem>Ca(OCl)2</chem>	10			20	o	+	-	+ <sup>1)</sup>	+	+	o	+	+	+	+	+
Calcium Hypochlorite	<chem>Ca(OCl)2</chem>	10			40	o	+	-	+ <sup>1)</sup>	+	+	o	+	o	+	+	+
Calcium Hypochlorite	<chem>Ca(OCl)2</chem>	10			60	-	o	-	+ <sup>1)</sup>	+	+	o	+	-	+	+	+
Calcium Nitrate	<chem>Ca(NO3)2</chem>	50	1,48		20	+	+	+	+	+	+	+	+	+	+	+	+
Calcium Nitrate	<chem>Ca(NO3)2</chem>	50			40	+	+	+	+	+	+	+	+	+	+	+	+
Caprylic acid					see octanoic acid												
Carbamide					see urea												
Carbonic Acid					see fatty acids												
Cellosolve					see ethyl glycol												
Chlorobenzene	<chem>C6H5Cl</chem>	TR	1,11	All	20	+	+	+	o	+	+	+	+	-	-	+	+
Chlorobenzene	<chem>C6H5Cl</chem>	TR			40	+	+	+	o	+	+	+	+	-	-	+	+
Chlorobenzene	<chem>C6H5Cl</chem>	TR			60	+	+	+	-	+	+	+	+	-	-	+	+
Chlorine Bleaching					see sodium hypochlorite												
Chlorobutane					see butyl chloride												
Chlorocalcium					see calcium chloride												
Chlorinated Diphenyl	<chem>C12H9Cl</chem>	TR			20	+ <sup>1)</sup>	+	+	-	+	+	o	+	-	-	+	+
Chloroacetic Acid	<chem>C2H5ClO2</chem>	85	1,36		20	-	+	-	+ <sup>1)</sup>	+	+	o	+	-	+	+	+
Chloroacetic Acid	<chem>C2H5ClO2</chem>	85			40	-	o	-	+ <sup>1)</sup>	+	+	-	+	-	+	+	+
Chloroacetic Acid	<chem>C2H5ClO2</chem>	85			60	-	o	-	+ <sup>1)</sup>	+	+	-	+	-	+	+	+
Chloroacetic Acid	<chem>C2H5ClO2</chem>	98			20	-	+	-	+ <sup>1)</sup>	+	+	o	+	-	+	+	+
Chloroacetic Acid	<chem>C2H5ClO2</chem>	98			40	-	o	-	+ <sup>1)</sup>	+	+	-	+	-	+	+	+
Chloroacetic Acid	<chem>C2H5ClO2</chem>	98			60	-	o	-	+ <sup>1)</sup>	+	+	-	+	-	+	+	+
Chloroacetic acid ethyl ester					see ethyl chloracetate												
Chloroethane	<chem>C2H5Cl</chem>	TR	0,92		20	+	+	+	-	+	+	+	o	-	o	+	+
Chloroethanol	<chem>CIH2C-CH2OH</chem>	TR	1,20		20	+ <sup>1)</sup>	+	-	+ <sup>1)</sup>	+	+	o	-	+	o	+	+
Chloroethanol	<chem>CIH2C-CH2OH</chem>	TR			40	+ <sup>1)</sup>	+	-	+ <sup>1)</sup>	o	+	o	-	o	o	+	+
Chloroethanol	<chem>CIH2C-CH2OH</chem>	TR			60	+ <sup>1)</sup>	+	-	+ <sup>1)</sup>	o	+	o	-	-	o	+	+
Chlorite bleach					see sodium chlorite												
Chloroform	<chem>CHCl3</chem>	TR	1,48		20	+ <sup>1)</sup>	+	-	o	+	+	-	o	-	-	+	+
Chloroethene					see trichloroethane												
Chloric Acid	<chem>HClO3</chem>	10			20	o	+	-	+ <sup>1)</sup>	+	+	-	+	-	+	+	+
Chloric Acid	<chem>HClO3</chem>	10			40	o	o	-	+ <sup>1)</sup>	+	+	-	+	-	+	+	+
Chloric Acid	<chem>HClO3</chem>	10			60	o	o	-	o	+	+	-	+	-	+	+	+
Chlorosulfuric acid					see chlorosulphonic acid												
Chlorosulphonic Acid	<chem>HOSO2Cl</chem>	TR	1,77		20	+ <sup>1)</sup>	+	-	-	-	+	-	o	-	-	+	+
Chlorotoluene					see benzyl chloride												
Chlorine Water	<chem>Cl2 + H2O</chem>	GL			20	o	+	-	o	+	+	o	-	-	+	+	+
Chlorine Water	<chem>Cl2 + H2O</chem>	GL			40	o	+	-	o	+	+	o	-	-	+	+	+

TR = technically pure, GL = saturated solution; H = commercial composition

+ = resistant, o = limited resistance, - = not resistant

<sup>1)</sup> not resistant with flow meter FMC, <sup>2)</sup> Drum pump F 424 with shaft in titanium resistant



## Resistance Chart

Description	Chemical Formula	Concentration in %	Density [kg/dm³]	Hazard class (VbF)	Temperature [in °C]	Stainless steel (1.4571)	Hastelloy C (2.4610)	Aluminium	PP	PVDF	ETFE	PPS	FKM	NBR	EPDM	PTFE/FEP	FFKM
Chlorine Water	Cl₂ + H₂O	GL			60	o	o	-	o	+	+	-	-	-	o	+	+
Hydrochloric acid solution					see hydrochloric acid												
Zinc chloride					see zinc chloride												
Chromic Acid	CrO₃+H₂O	30			20	o	+	-	o	+	+	o	+	-	-	+	+
Chromic Acid	CrO₃+H₂O	50			20	o	o	-	-	+	+	o	+	-	-	+	+
Chromic Acid	CrO₃+H₂O	50			40	o	o	-	-	+	+	-	+	-	-	+	+
Chromic Acid	CrO₃+H₂O	50			60	o	o	-	-	+	+	-	+	-	-	+	+
Chromic-Sulphuric-Acid-Mixture	H₂SO₄+H₂O+CrO₃	50			20	o	o	-	o	+	+	-	+	-	-	+	+
Chromic-Sulphuric-Acid-Mixture	H₂SO₄+H₂O+CrO₃	50			40	o	o	-	-	+	+	-	+	-	-	+	+
Chromic-Sulphuric-Acid-Mixture	H₂SO₄+H₂O+CrO₃	50			60	o	o	-	-	+	+	-	+	-	-	+	+
Chromium Trioxide					see chromic acid												
Clophene					see chlorinated diphenyl												
Crotonaldehyde					see propylene aldehyde												
Hydrocyanic Acid	HCN	TR	0,69		20	+	+	-	+	+	+	+	+	o	+	+	+
Hydrocyanic Acid	HCN	GL			20	+	+	-	+	+	+	+	o	-	o	+	+
Hydrocyanic Acid	HCN	GL			40	+ <sup>1)</sup>	+	-	+ <sup>1)</sup>	+	+	o	o	-	o	+	+
Hydrocyanic Acid	HCN	GL			60	o	+	-	+ <sup>1)</sup>	+	+	o	o	-	o	+	+
Cyclohexane	C <sub>6</sub> H <sub>12</sub>	TR	0,78	AI	20	+	+	+	+	+	+	+	+	-	+	+	+
Cyclohexane	C <sub>6</sub> H <sub>12</sub>	TR			40	+	+	+	+	+	+	+	+	-	+	+	+
Cyclohexane	C <sub>6</sub> H <sub>12</sub>	TR			60	+	+	+	o	+	+	o	-	-	+	+	+
Cyclohexanol	C <sub>6</sub> H <sub>13</sub> O	TR	0,94	All	20	+	+	-	+	+	+	+	o	o	o	+	+
Cyclohexanol	C <sub>6</sub> H <sub>13</sub> O	TR			40	+	+	-	+	+	+	+	o	o	o	+	+
Cyclohexanone	C <sub>6</sub> H <sub>13</sub> O	TR	0,95	All	20	+	+	+	+	+	+	+	-	-	o	+	+
Decahydronaphthalene					see decaline												
Decaline	C <sub>10</sub> H <sub>18</sub>	TR	0,88	All	20	+	+	+	o	+	+	+	+	o	-	+	+
Decaline	C <sub>10</sub> H <sub>18</sub>	TR			40	+ <sup>1)</sup>	+	+	o	+	+	o	+	o	-	+	+
Decaline	C <sub>10</sub> H <sub>18</sub>	TR			60	+ <sup>1)</sup>	+	+	o	+	+	o	+	o	-	+	+
Dextrine	C <sub>6</sub> H <sub>10</sub> O <sub>5</sub> +H <sub>2</sub> O	18			20	+	+	+	+	+	+	+	+	+	+	+	+
Dextrine	C <sub>6</sub> H <sub>10</sub> O <sub>5</sub> +H <sub>2</sub> O	18			40	+	+	+	+	+	+	+	+	o	+	+	+
Dextrine	C <sub>6</sub> H <sub>10</sub> O <sub>5</sub> +H <sub>2</sub> O	18			60	+	+	+	+	+	+	+	+	o	+	+	+
Dextrine	C <sub>6</sub> H <sub>10</sub> O <sub>5</sub> +H <sub>2</sub> O	GL			20	+	+	+	+	+	+	+	+	+	+	+	+
Dextronic acid					see gluconic acid												
Diacetone Alcohol	(CH <sub>3</sub> ) <sub>2</sub> C(OH)CH <sub>2</sub> COCH <sub>3</sub>	TR		B	20	+	+	-	-	+	+	+	+	-	+	+	+
Diacetone Alcohol	(CH <sub>3</sub> ) <sub>2</sub> C(OH)CH <sub>2</sub> COCH <sub>3</sub>	TR			40	+	+	-	-	+	+	+	+	-	+	+	+
Diacetone Alcohol	(CH <sub>3</sub> ) <sub>2</sub> C(OH)CH <sub>2</sub> COCH <sub>3</sub>	TR			60	+	+	-	-	+	+	-	-	-	+	+	+
Diamide					see hydrazine												
Dibromoethane					see ethylene bromide												
Diethyl Ether	C <sub>2</sub> H <sub>5</sub> O	TR	0,77	All	20	+ <sup>1)</sup>	+	-	o	+	+	o	-	+	o	+	+
Diethyl Ether	C <sub>2</sub> H <sub>5</sub> O	TR			40	+ <sup>1)</sup>	+	-	-	+	+	-	-	o	o	+	+
Diethyl Ether	C <sub>2</sub> H <sub>5</sub> O	TR			60	+ <sup>1)</sup>	+	-	-	+	+	-	-	o	+	+	+
Diethyl Phthalate	C <sub>6</sub> H <sub>5</sub> (CO <sub>2</sub> C <sub>2</sub> H <sub>5</sub> ) <sub>2</sub>	TR	1,05		20	+	+	+	+	+	+	o	-	o	+	+	+
Diethyl Phthalate	C <sub>6</sub> H <sub>5</sub> (CO <sub>2</sub> C <sub>2</sub> H <sub>5</sub> ) <sub>2</sub>	TR			40	+ <sup>1)</sup>	+	+	o	+	+	+	-	-	-	+	+
Diethyl Phthalate	C <sub>6</sub> H <sub>5</sub> (CO <sub>2</sub> C <sub>2</sub> H <sub>5</sub> ) <sub>2</sub>	TR			60	+ <sup>1)</sup>	+	+	o	o	+	+	-	-	-	+	+
Diethyl Sebacate	C <sub>18</sub> H <sub>34</sub> O <sub>4</sub>	TR	0,94		20	+ <sup>1)</sup>	+	-	+ <sup>1)</sup>	+	+	o	o	-	-	+	+
Diethyl Sebacate	C <sub>18</sub> H <sub>34</sub> O <sub>4</sub>	TR			40	+ <sup>1)</sup>	+	-	+ <sup>1)</sup>	+	+	o	o	-	-	+	+
Diethyl Sebacate	C <sub>18</sub> H <sub>34</sub> O <sub>4</sub>	TR			60	+ <sup>1)</sup>	+	-	+ <sup>1)</sup>	+	+	o	o	-	-	+	+
Dichlorodifluoromethane	CF <sub>2</sub> Cl <sub>2</sub>	TR	1,32		20	+	+	-	-	+	+ <sup>1)</sup>	+	o	o	o	+	+
Dichloro Acetic Acid	CHCl <sub>2</sub> CO <sub>2</sub> H	TR	1,56		20	-	+	-	+ <sup>1)</sup>	+	+	-	o	-	+	+	+
Dichloro Acetic Acid	CHCl <sub>2</sub> CO <sub>2</sub> H	TR			40	-	o	-	+ <sup>1)</sup>	+	+	-	o	-	+	+	+
Dichloro Acetic Acid	CHCl <sub>2</sub> CO <sub>2</sub> H	TR			60	-	o	-	o	+	+	-	-	-	o	+	+
Dichloroethane					see ethyl dichloride												
Dichloroethylene 1,1	C <sub>2</sub> H <sub>2</sub> Cl <sub>2</sub>	TR	1,22	AI	20	+ <sup>1)</sup>	+	-	o	+	+	-	+	+	-	+	+
Dichloroethylene 1,1	C <sub>2</sub> H <sub>2</sub> Cl <sub>2</sub>	TR			40	+ <sup>1)</sup>	+	-	o	+	+	-	+	+	-	+	+
Dichloroethylene 1,1	C <sub>2</sub> H <sub>2</sub> Cl <sub>2</sub>	TR			60	+ <sup>1)</sup>	+	-	o	+	+	-	+	+	-	+	+
Dichloromethane					see methylene chloride												

TR = technically pure, GL = saturated solution; H = commercial composition

+ = resistant, o = limited resistance, - = not resistant

<sup>1)</sup> not resistant with flow meter FMC, <sup>2)</sup> Drum pump F 424 with shaft in titanium resistant



## Resistance Chart

Description	Chemical Formula	Concentration in %	Density [kg/dm³]	Hazard class (VbF)	Temperature [in °C]	Stainless steel (1.4571)	Hastelloy C (2.4610)	Aluminium	PP	PVDF	ETFE	PPS	FKM	NBR	EPDM	PTFE/FEP	FFKM
Diesel Fuel		H		AIII	20	+	+	+	O	+	+	+	+	+	-	+	+
Diesel Fuel		H			40	+	+	+	O	+	+	+	+	+	-	+	+
Diesel Fuel		H			60	+	+	+	-	+	+	+	+	+	-	+	+
Diethanolamine	HN(CH <sub>2</sub> CH <sub>2</sub> OH) <sub>2</sub>	1,10			20	+	+	-	+	O	+	+	O	-	+	+	+
Diethanolamine	HN(CH <sub>2</sub> CH <sub>2</sub> OH) <sub>2</sub>				40	+ <sup>1)</sup>	+	-	+ <sup>1)</sup>	O	+	O	O	-	+	+	+
Diethanolamine	HN(CH <sub>2</sub> CH <sub>2</sub> OH) <sub>2</sub>				60	+ <sup>1)</sup>	+	-	+ <sup>1)</sup>	-	+	O	O	-	+	+	+
Diethylamine	C <sub>2</sub> H <sub>5</sub> N	10	0,70	B	20	+ <sup>1)</sup>	+	+	+ <sup>1)</sup>	O	+	-	-	-	+	+	+
Diethylcellosolve						see ethyl glycol											
Diethylene Oxide						see butanone											
Diethyl Ether						see ether											
Diglycolic Acid	C <sub>4</sub> H <sub>8</sub> O <sub>6</sub>	30			20	+ <sup>1)</sup>	+	-	+ <sup>1)</sup>	+	+	-	+	O	+	+	+
Diglycolic Acid	C <sub>4</sub> H <sub>8</sub> O <sub>6</sub>	30			40	+ <sup>1)</sup>	+	-	+ <sup>1)</sup>	+	+	-	+	O	O	+	+
Diglycolic Acid	C <sub>4</sub> H <sub>8</sub> O <sub>6</sub>	30			60	+ <sup>1)</sup>	+	-	+ <sup>1)</sup>	+	+	-	+	O	O	+	+
Diglycolic Acid	C <sub>4</sub> H <sub>8</sub> O <sub>6</sub>	GL			20	+ <sup>1)</sup>	+	-	+ <sup>1)</sup>	+	+	-	+	O	+	+	+
Diisobutyl Ketone						see 2,6-dimethylheptan-4-one											
Diisopropylether						see isopropyl ether											
2,6-Dimethylheptan-4-one	C <sub>8</sub> H <sub>16</sub> O	TR			20	+	+	-	+	+	+	+	+	-	+	+	+
2,6-Dimethylheptan-4-one	C <sub>8</sub> H <sub>16</sub> O	TR			40	+	+	-	+	+	+	+	-	-	+	+	+
2,6-Dimethylheptan-4-one	C <sub>8</sub> H <sub>16</sub> O	TR			60	+	+	-	+	+	+	+	-	-	+	+	+
Dimethylamine	(CH <sub>3</sub> ) <sub>2</sub> NH	TR	0,73		20	+	+	-	+	O	+	+	O	-	O	+	+
Dimethyl Benzene						see xylene											
Dimethyl Formamide (DMF)	C <sub>2</sub> H <sub>5</sub> NO	TR	0,95		20	+	+	-	+	-	+	+	-	O	+	+	+
Dimethyl Formamide (DMF)	C <sub>2</sub> H <sub>5</sub> NO	TR			40	+	+	-	+	-	+	+	-	-	+	+	+
Dimethyl Formamide (DMF)	C <sub>2</sub> H <sub>5</sub> NO	TR			60	+	+	-	+	-	+	+	-	-	+	+	+
Dimethyl Phthalate (DMP)	C <sub>8</sub> H <sub>14</sub> (COOCH <sub>3</sub> ) <sub>2</sub>	TR			20	+	+	-	+	+	+	+	-	-	+	+	+
Dimethyl Phthalate (DMP)	C <sub>8</sub> H <sub>14</sub> (COOCH <sub>3</sub> ) <sub>2</sub>	TR			40	+	+	-	+	+	+	+	-	-	+	+	+
Dimethyl Phthalate (DMP)	C <sub>8</sub> H <sub>14</sub> (COOCH <sub>3</sub> ) <sub>2</sub>	TR			60	+	+	-	+	+	+	+	-	-	+	+	+
Dinonyl Phthalate	C <sub>26</sub> H <sub>42</sub> O <sub>4</sub>	TR			20	+	+	-	+	+	+	+	-	-	+	+	+
Dinonyl Phthalate	C <sub>26</sub> H <sub>42</sub> O <sub>4</sub>	TR			30	+	+	-	+	+	+	+	-	-	+	+	+
Diocetyl Phthalate	C <sub>24</sub> H <sub>38</sub> O <sub>4</sub>	TR			20	+	+	-	O	+	+	+	-	-	+	+	+
Diocetyl Phthalate	C <sub>24</sub> H <sub>38</sub> O <sub>4</sub>	TR			40	+	+	-	O	+	+	+	-	-	+	+	+
Diocetyl Phthalate	C <sub>24</sub> H <sub>38</sub> O <sub>4</sub>	TR			60	+	+	-	O	O	+	+	-	-	+	+	+
Dioxane	C <sub>4</sub> H <sub>8</sub> O <sub>2</sub>	TR	1,03	B	20	+	+	+	-	+	+	+	-	O	+	+	+
Dioxane	C <sub>4</sub> H <sub>8</sub> O <sub>2</sub>	TR			40	+	+	+	-	O	+	+	-	-	+	+	+
Dioxane	C <sub>4</sub> H <sub>8</sub> O <sub>2</sub>	TR			60	+ <sup>1)</sup>	+	+	-	-	+	O	-	-	+	+	+
DMF						see dimethyl formamide											
DMP						see dimethyl phthalate											
Diethylamine	C <sub>2</sub> H <sub>5</sub> N	10	0,70	B	20	+	+	+	+	O	+	-	-	-	+	+	+
Ferrochloride	FeCl <sub>3</sub> +H <sub>2</sub> O	10	1,09		20	+	+	-	+	+	+	+	+	+	+	+	+
Ferrochloride	FeCl <sub>3</sub> +H <sub>2</sub> O	10			40	O	+	-	+	+	+	+	+	+	+	+	+
Ferrochloride	FeCl <sub>3</sub> +H <sub>2</sub> O	10			60	O	O	-	+	+	+	+	+	+	+	+	+
Ferrochloride	FeCl <sub>3</sub> +H <sub>2</sub> O	50			20	+	+	-	+	+	+	+	+	+	+	+	+
Ferrochloride	FeCl <sub>3</sub> +H <sub>2</sub> O	50			40	O	+	-	+	+	+	+	+	+	+	+	+
Ferrochloride	FeCl <sub>3</sub> +H <sub>2</sub> O	50			60	O	+	-	+	+	+	+	+	+	+	+	+
Ferrochloride	FeCl <sub>3</sub> +H <sub>2</sub> O	50			60	O	+	-	+	+	+	+	+	+	+	+	+
Ferrous Nitrate	Fe(NO <sub>3</sub> ) <sub>2</sub>	TR			20	+	+	-	+	+	+	+	+	+	+	+	+
Ferrous Nitrate	Fe(NO <sub>3</sub> ) <sub>2</sub>	TR			40	+	+	-	+	+	+	+	+	+	+	+	+
Ferrous Nitrate	Fe(NO <sub>3</sub> ) <sub>2</sub>	TR			60	+	+	-	+	+	+	+	+	+	+	+	+
Ferrosulphate	FeSO <sub>4</sub>	20	1,21		20	+ <sup>1)</sup>	+	+	+ <sup>1)</sup>	+	+	+	+	+	+	+	+
Ferrosulphate	FeSO <sub>4</sub>	20			40	+ <sup>1)</sup>	+	+	+ <sup>1)</sup>	+	+	+	+	O	+	+	+
Ferrosulphate	FeSO <sub>4</sub>	20			60	+ <sup>1)</sup>	+	+	+ <sup>1)</sup>	+	+	-	+	+	+	+	+
Ferrichloride	FeCl <sub>3</sub> +H <sub>2</sub> O	50	1,55		20	-	+	-	+ <sup>2)</sup>	+ <sup>2)</sup>	+	+	+	+	+	+	+
Ferrichloride	FeCl <sub>3</sub> +H <sub>2</sub> O	50			40	-	O	-	+ <sup>2)</sup>	+ <sup>2)</sup>	+	+	+	+	+	+	+
Ferrichloride	FeCl <sub>3</sub> +H <sub>2</sub> O	50			60	-	-	-	+ <sup>2)</sup>	+ <sup>2)</sup>	+	+	+	+	+	+	+
Ferric Sulphate	Fe <sub>2</sub> (SO <sub>4</sub> ) <sub>3</sub>	50	1,61		20	+	+	-	+	+	+	+	+	+	+	+	+
Ferric Sulphate	Fe <sub>2</sub> (SO <sub>4</sub> ) <sub>3</sub>	50			40	+	+	-	+	+	+	+	+	+	+	+	+

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Ferric Sulphate	Fe <sub>2</sub> (SO <sub>4</sub> ) <sub>3</sub>	50			60	+	+	-	+	+	+	+	+	+	+	+	+
Ferro-Gallic-Inc					see ink												
Iron Vitriol					see ferrosulphate												
Glacial acetic acid					see acetic acid 100 %												
Epichlorhydrine	H <sub>2</sub> C-O-CH-CH <sub>2</sub> Cl			All	20	o	+	-	+	+	+	+	-	-	-	+	+
Epichlorhydrine	H <sub>2</sub> C-O-CH-CH <sub>2</sub> Cl				40	o	+	-	+	+	+	+	-	-	-	+	+
Epichlorhydrine	H <sub>2</sub> C-O-CH-CH <sub>2</sub> Cl				60	o	+	-	+	+	+	+	-	-	-	+	+
Mineral oil					20	+	+	+	+	+	+	+	+	+	-	+	+
Mineral oil					40	+	+	+	+	+	+	+	+	+	-	+	+
Mineral oil					60	+	+	+	+	+	+	+	+	-	+	+	+
Vinegar					see wine vinegar												
Acetic Acid	CH <sub>3</sub> COOH	10			20	+	+	o	+	+	+	+	o	o	+	+	+
Acetic Acid	CH <sub>3</sub> COOH	10			40	+	+	o	+	+	+	+	-	-	+	+	+
Acetic Acid	CH <sub>3</sub> COOH	10			60	+	+	-	+	+	+	+	-	-	o	+	+
Acetic Acid	CH <sub>3</sub> COOH	25			20	+	+	o	+	+	+	+	-	-	+	+	+
Acetic Acid	CH <sub>3</sub> COOH	25			40	+	+	o	+	+	+	+	-	-	o	+	+
Acetic Acid	CH <sub>3</sub> COOH	25			60	+	+	-	+	+	+	+	-	-	-	+	+
Acetic Acid	CH <sub>3</sub> COOH	50			20	+	+	o	+	+	+	+	-	-	o	+	+
Acetic Acid	CH <sub>3</sub> COOH	50			40	-	+	o	+	+	+	+	-	-	o	+	+
Acetic Acid	CH <sub>3</sub> COOH	50			60	-	+	-	+	+	+	+	-	-	-	+	+
Acetic Acid	CH <sub>3</sub> COOH	80			20	-	+	-	+	+	+	+	-	-	o	+	+
Acetic Acid	CH <sub>3</sub> COOH	80			40	-	+	-	+	+	+	+	-	-	o	+	+
Acetic Acid	CH <sub>3</sub> COOH	80			60	-	+	-	o	+	+	+	-	-	-	+	+
Acetic Acid	CH <sub>3</sub> COOH	100 1,05			20	-	+	-	o	+	+	+	-	-	o	+	+
Acetic Acid	CH <sub>3</sub> COOH	100			40	-	+	-	o	+	+	+	-	-	-	+	+
Acetic Acid	CH <sub>3</sub> COOH	100			60	-	+	-	o	o	+	+	-	-	-	+	+
Ethanoic anhydride					see acetanhydride												
Acetic acid butyl ester					see butyl acetate												
Acetic acid ethyl ester					see ethyl acetate												
Acetic acid methyl ester					see acetic methyl ester												
Ethanal					see acetaldehyde												
Ethane Dicarboxylic Acid	C <sub>2</sub> H <sub>4</sub> O <sub>4</sub>	50 1,06			20	+	+	-	+	+	+	+	+	+	+	+	+
Ethane Dicarboxylic Acid	C <sub>2</sub> H <sub>4</sub> O <sub>4</sub>	50			40	+	+	-	+	+	+	+	+	+	+	+	+
Ethane Dicarboxylic Acid	C <sub>2</sub> H <sub>4</sub> O <sub>4</sub>	50			60	+	+	-	+	+	+	+	+	+	+	+	+
Ethanedioic acid					see oxalic acid												
Ethanol	CH <sub>3</sub> -CH <sub>2</sub> -OH	TR 0,79	B	20	+	+	+	+	+	+	+	+	+	+	+	+	+
Ethanol	CH <sub>3</sub> -CH <sub>2</sub> -OH	TR		40	+	+	+	+	+	+	+	+	o	+	+	+	+
Ethanol	CH <sub>3</sub> -CH <sub>2</sub> -OH	TR		60	+	+	+	+	+	+	+	+	o	+	+	+	+
Ether	(C <sub>2</sub> H <sub>5</sub> ) <sub>2</sub> O	TR 0,71	AI	20	+	+	+	-	+	+	+	+	o	o	o	o	+
Essential oils					20	+	+	+	+	+	+	+	+	-	-	+	+
Essential oils					40	+	+	+	+	+	+	+	o	-	-	+	+
Essential oils					60	+	+	+	+	+	+	+	-	-	-	+	+
Ethyl Acetate	H <sub>3</sub> C-COOCH <sub>3</sub>	TR 0,90	AI	20	+	+	o	o	+	+	-	-	o	+	+	+	+
Ethyl Acetate	H <sub>3</sub> C-COOCH <sub>2</sub> H <sub>5</sub>	TR		40	+	+	-	o	+	+	+	-	o	+	+	+	+
Ethyl Acetate	H <sub>3</sub> C-COOCH <sub>2</sub> H <sub>5</sub>	TR		60	+	+	-	o	+	+	-	-	-	-	-	+	+
Ethyl Alcohol					see ethanol												
Ethyl Benzene	C <sub>6</sub> H <sub>5</sub> -C <sub>2</sub> H <sub>5</sub>	TR 0,87	All	20	+ <sup>1)</sup>	+	+	o	+	+	-	o	-	-	+	+	+
Ethyl Benzene	C <sub>6</sub> H <sub>5</sub> -C <sub>2</sub> H <sub>5</sub>	TR		40	+ <sup>1)</sup>	+	+	-	+	+	-	-	-	-	+	+	+
Ethyl Benzene	C <sub>6</sub> H <sub>5</sub> -C <sub>2</sub> H <sub>5</sub>	TR		60	+ <sup>1)</sup>	+	+	-	+	+	-	-	-	-	+	+	+
Ethyl Chloracetate	CIH <sub>3</sub> C-CO-OC <sub>2</sub> H <sub>5</sub>			All	20	o	+	-	+	o	+	+	-	-	+	+	+
Ethyl Chloracetate	CIH <sub>3</sub> C-CO-OC <sub>2</sub> H <sub>5</sub>				40	o	+	-	+	o	+	+	-	-	+	+	+
Ethyl Chloracetate	CIH <sub>3</sub> C-CO-OC <sub>2</sub> H <sub>5</sub>				60	o	+	-	+	o	+	+	-	-	+	+	+
Ethyl Chloride					see chloroethane												
Ethylene Bromide	CH <sub>2</sub> Br-CH <sub>2</sub> Br	TR 2,18		20	+ <sup>1)</sup>	+	+	+ <sup>1)</sup>	o	+	o	+	o	o	+	+	+
Ethylene Bromide	CH <sub>2</sub> Br-CH <sub>2</sub> Br	TR		40	+ <sup>1)</sup>	+	+	o	o	+	o	+	o	-	o	+	+

TR = technically pure, GL = saturated solution; H = commercial composition

+ = resistant, o = limited resistance, - = not resistant

<sup>1)</sup> not resistant with flow meter FMC, <sup>2)</sup> Drum pump F 424 with shaft in titanium resistant



## Resistance Chart

Description	Chemical Formula	Concentration in %	Density [kg/dm³]	Hazard class (VbF)	Temperature [in °C]	Stainless steel (1.4571)	Hastelloy C (2.4610)	Aluminium	PP	PVDF	ETFE	PPS	FKM	NBR	EPDM	PTFE/FEP	FFKM
Ethylene Bromide	CH <sub>2</sub> Br-CH <sub>2</sub> Br	TR			60 + <sup>1)</sup>	+	+	-	o	+	o	o	-	-	+	+	
Ethylene Chlorhydrine					see chloroethanol												
Ethyl Dichloride	H <sub>3</sub> C-CHCl <sub>2</sub>		1,20	AI	20	+	+	+	o	+	+	+	+	o	o	+	+
Ethyl Dichloride	H <sub>3</sub> C-CHCl <sub>2</sub>				40	+	+	+	o	+	+	+	+	-	o	+	+
Ethyl Dichloride	H <sub>3</sub> C-CHCl <sub>2</sub>				60	+	+	+	-	+	+	+	o	-	-	+	+
Ethylene Diamine	H <sub>2</sub> N-CH <sub>2</sub> -CH <sub>2</sub> -NH <sub>2</sub>	TR	0,98		20	+	+	+	+	+	+	o	o	o	+	+	+
Ethylene Diamine	H <sub>2</sub> N-CH <sub>2</sub> -CH <sub>2</sub> -NH <sub>2</sub>	TR			40	+	+	+	+	+	+	o	o	o	+	+	+
Ethylene Diamine	H <sub>2</sub> N-CH <sub>2</sub> -CH <sub>2</sub> -NH <sub>2</sub>	TR			60	+	+	+	+	+	+	-	-	+	+	+	
Ethylene Dicarboxylic Acid					see maleic acid												
Ethylene Glycol	C <sub>2</sub> H <sub>6</sub> O <sub>2</sub>	TR	1,11		20	+	+	+	+	+	+	+	+	+	+	+	+
Ethylene Glycol	C <sub>2</sub> H <sub>6</sub> O <sub>2</sub>	TR			40	+	+	+	+	+	+	+	+	+	+	+	+
Ethylene Glycol	C <sub>2</sub> H <sub>6</sub> O <sub>2</sub>	TR			60	+	+	+	+	+	+	+	+	+	+	+	+
Ethyl Ether					see ether												
Ethyl Fluid					see lead tetraethyl												
Ethyl Glycol	C <sub>2</sub> H <sub>5</sub> -O-CH <sub>2</sub> -HC <sub>2</sub> OH	TR	0,93	All	20	+	+	-	-	+	+	+	+	-	+	+	+
Ethyl Glycol	C <sub>2</sub> H <sub>5</sub> -O-CH <sub>2</sub> -HC <sub>2</sub> OH	TR			40	+	+	-	-	+	+	+	+	-	+	+	+
Ethyl Glycol	C <sub>2</sub> H <sub>5</sub> -O-CH <sub>2</sub> -HC <sub>2</sub> OH	TR			60	+	+	-	-	+	+	+	+	-	+	+	+
Ferrocyanide of Potassium					see potassium ferricyanide												
Ferro					see ferrous nitrate												
Ferric chloride					see ferrochloride												
Potassium Ferrocyanide					see potassium ferrocyanide												
Fatty Acids	C <sub>17</sub> H <sub>33</sub> CO <sub>2</sub> H	100	0,90		20	+	+	-	o	+	+	+	+	o	-	+	+
Fatty Acids	C <sub>17</sub> H <sub>33</sub> CO <sub>2</sub> H	100			40	+	+	-	o	+	+	+	+	-	-	+	+
Fatty Acids	C <sub>17</sub> H <sub>33</sub> CO <sub>2</sub> H	100			60	+	+	-	o	+	+	+	+	-	-	+	+
Pine Needle Oil					see essential oils												
Fluorine monoammoniate					see ammonium fluoride												
Hydrofluosilic Acid	H <sub>2</sub> SiF <sub>6</sub>	32	1,17		20	-	+	-	+ <sup>1)</sup>	+	+	-	+	o	+	+	+
Hydrofluosilic Acid	H <sub>2</sub> SiF <sub>6</sub>	32			40	-	o	-	+ <sup>1)</sup>	+	+	-	+	-	o	+	+
Hydrofluosilic Acid	H <sub>2</sub> SiF <sub>6</sub>	32			60	-	o	-	+ <sup>1)</sup>	+	+	-	+	-	o	+	+
Hydrofluoric Acid	HF	40	1,06		20	-	o	-	+ <sup>1)</sup>	+	+	-	+	-	o	+	+
Hydrofluoric Acid	HF	40			40	-	o	-	+ <sup>1)</sup>	+	+	-	+	-	-	+	+
Hydrofluoric Acid	HF	40			60	-	o	-	o	+	+	-	o	-	-	+	+
Hydrofluoric Acid	HF	60			20	-	o	-	+	+	+	-	+	-	o	+	+
Hydrofluoric Acid	HF	70	1,23		20	-	o	-	o	+	+	-	o	-	o	+	+
Hydrofluoric Acid	HF	70			40	-	o	-	o	+	+	-	o	-	-	+	+
Hydrofluoric Acid	HF	70			60	-	o	-	o	o	+	-	o	-	-	+	+
Fluoric acid					see hydrofluoric acid												
Formaldehyde	CH <sub>2</sub> O+H <sub>2</sub> O	10			20	+	+	-	+	+	+	+	+	+	+	+	+
Formaldehyde	CH <sub>2</sub> O+H <sub>2</sub> O	10			40	+	+	-	+	+	+	+	+	o	+	+	+
Formaldehyde	CH <sub>2</sub> O+H <sub>2</sub> O	10			60	+	+	-	+	+	+	+	+	-	+	+	+
Formaldehyde	CH <sub>2</sub> O+H <sub>2</sub> O	35	1,10	All	20	+	+	-	+	+	+	+	+	-	+	+	+
Formaldehyde	CH <sub>2</sub> O+H <sub>2</sub> O	40		All	20	+	+	-	+	+	+	+	+	o	+	+	+
Formalin					see formaldehyde												
Formamide	HCONH <sub>2</sub>	100			20	+	+	+	+	+	+	+	+	o	+	+	+
Formamide	HCONH <sub>2</sub>	100			40	+	+	+	+	+	+	+	+	-	o	+	+
Formamide	HCONH <sub>2</sub>	100			60	+	+	+	+	+	+	+	+	-	+	+	+
Freon					see dichlorodifluoromethane												
Fruit Juice		H			20	+	+	o	+	+	+	+	+	+	+	+	+
Fruit Juice		H			40	+	+	o	+	+	+	+	+	+	+	+	+
Fruit Juice		H			60	+	+	o	+	+	+	+	+	+	+	+	+
Furfuryl Alcohol	C <sub>7</sub> H <sub>8</sub> O <sub>2</sub>	TR	1,13	All	20	+	+	+	+	+	+	+	o	-	+	+	+
Furfuryl Alcohol	C <sub>7</sub> H <sub>8</sub> O <sub>2</sub>	TR			40	+	+	+	o	+	+	+	-	-	+	+	+
Furfuryl Alcohol	C <sub>7</sub> H <sub>8</sub> O <sub>2</sub>	TR			60	+	+	+	o	o	+	+	-	-	+	+	+
Gallotannic Acid					see tannic acid												
Gallic Acid	C <sub>6</sub> H <sub>5</sub> (OH) <sub>3</sub> CO <sub>2</sub> H	50			20	+ <sup>1)</sup>	+	-	+ <sup>1)</sup>	+	+	-	+	+	+	+	+

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<sup>1)</sup> not resistant with flow meter FMC, <sup>2)</sup> Drum pump F 424 with shaft in titanium resistant



## Resistance Chart

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Tanning Extracts Vegetable		H			20	+ <sup>1)</sup>	+	+	+ <sup>1)</sup>	+	+	-	+	+	+	+	+
Tanning Extracts Vegetable		H			40	+ <sup>1)</sup>	+	O	+ <sup>1)</sup>	+	+	-	+	O	+	+	+
Tanning Extracts Vegetable		H			60	+ <sup>1)</sup>	+	-	O	+	+	-	+	-	O	+	+
Tannic Acid	C <sub>6</sub> O <sub>7</sub> H <sub>5</sub>	50			20	+ <sup>1)</sup>	+	-	+ <sup>1)</sup>	+	+	-	+	+	+	+	+
Tannic Acid	C <sub>6</sub> O <sub>7</sub> H <sub>5</sub>	50			40	+ <sup>1)</sup>	+	-	+ <sup>1)</sup>	+	+	-	+	O	+	+	+
Tannic Acid	C <sub>6</sub> O <sub>7</sub> H <sub>5</sub>	50			60	+ <sup>1)</sup>	+	-	+ <sup>1)</sup>	+	+	-	+	-	+	+	+
Ammonium bifluoride																	
Glauber's Salt																	
Gluconic Acid	C <sub>6</sub> H <sub>12</sub> O <sub>7</sub>				20	+	+	-	+	+	+	+	+	+	+	+	+
Gluconic Acid	C <sub>6</sub> H <sub>12</sub> O <sub>7</sub>				40	+	+	-	+	+	+	+	+	+	+	+	+
Gluconic Acid	C <sub>6</sub> H <sub>12</sub> O <sub>7</sub>				60	+	+	-	+	+	+	+	+	O	+	+	+
Glucose																	
Glycerin	C <sub>3</sub> H <sub>8</sub> O <sub>3</sub>	TR	1,26		20	+	+	+	+	+	+	+	+	O	+	+	+
Glycerin	C <sub>3</sub> H <sub>8</sub> O <sub>3</sub>	TR			40	+	+	+	+	+	+	+	+	O	+	+	+
Glycerin	C <sub>3</sub> H <sub>8</sub> O <sub>3</sub>	TR			60	+	+	+	+	+	+	+	+	O	+	+	+
Glycol																	
Glycolic Acid	C <sub>2</sub> H <sub>3</sub> O <sub>3</sub>	37			20	+	+	-	+	+	+	+	+	+	+	+	+
Glycolic Acid	C <sub>2</sub> H <sub>3</sub> O <sub>3</sub>	70			20	+	+	-	+	+	+	+	+	-	+	+	+
Glycolic Acid	C <sub>2</sub> H <sub>3</sub> O <sub>3</sub>	70			40	+	+	-	O	O	+	+	O	-	O	+	+
Glycolic Acid	C <sub>2</sub> H <sub>3</sub> O <sub>3</sub>	70			60	+	+	-	O	+	+	O	-	-	+	+	+
Glycose																	
Urea	CH <sub>4</sub> N <sub>2</sub> O	10			20	+	+	+	+	+	+	+	+	+	+	+	+
Urea	CH <sub>4</sub> N <sub>2</sub> O	10			40	+	+	+	+	+	+	+	+	+	+	+	+
Urea	CH <sub>4</sub> N <sub>2</sub> O	10			60	+	+	+	+	+	+	+	+	+	+	+	+
Urea	CH <sub>4</sub> N <sub>2</sub> O	33			20	+	+	+	+	+	+	+	+	+	+	+	+
Urea	CH <sub>4</sub> N <sub>2</sub> O	33			40	+	+	O	+	+	+	+	+	+	+	+	+
Urea	CH <sub>4</sub> N <sub>2</sub> O	33			60	+	+	O	+	+	+	+	+	+	+	+	+
Heating oil		H		AIII	20	+	+	+	+	+	+	+	+	+	+	+	+
Heating oil		H			40	+	+	O	+	+	+	+	+	O	+	+	+
Heating oil		H			60	+	+	O	+	+	+	+	+	-	+	+	+
Heptane	C <sub>7</sub> H <sub>16</sub>	TR	0,68	AI	20	+	+	+	+	+	+	+	+	-	+	+	+
Heptane	C <sub>7</sub> H <sub>16</sub>	TR			40	+	+	+	+	+	+	+	+	-	+	+	+
Heptane	C <sub>7</sub> H <sub>16</sub>	TR			60	+	+	O	+	+	+	+	+	-	+	+	+
Hexahydrobenzene																	
Hexalin																	
Hexamethylenetetramine	(CH <sub>2</sub> ) <sub>6</sub> N <sub>4</sub>	10			20	+	+	+	-	+	+	+	O	-	-	+	+
Hexamethylenetetramine	(CH <sub>2</sub> ) <sub>6</sub> N <sub>4</sub>	10			40	+	+	+	-	+	+	+	-	-	-	+	+
Hexamethylenetetramine	(CH <sub>2</sub> ) <sub>6</sub> N <sub>4</sub>	10			60	+	+	+	-	O	+	+	-	-	-	+	+
Hexamine																	
Hexane	C <sub>6</sub> H <sub>14</sub>	TR		AI	20	+	+	+	+	+	+	+	+	-	+	+	+
Hexane	C <sub>6</sub> H <sub>14</sub>	TR			40	+	+	+	+	+	+	+	+	-	+	+	+
Hexane	C <sub>6</sub> H <sub>14</sub>	TR			60	+	+	O	+	+	+	+	+	-	+	+	+
Hexanedioic Acid																	
Hexanol	C <sub>6</sub> H <sub>13</sub> OH		0,82	AIII	20	+	+	-	+	+	+	+	+	-	+	+	+
Hexylalcohol																	
Sal volatile																	
Lunar caustic																	
Hydrazine	H <sub>2</sub> N-NH <sub>2</sub>	TR	1,08	B	20	+ <sup>1)</sup>	+	-	+ <sup>1)</sup>	+	+	-	+	+	+	+	+
Hydrazine	H <sub>2</sub> N-NH <sub>2</sub>	TR			40	O	+	-	O	+	+	-	+	O	O	+	+
Hydrazine	H <sub>2</sub> N-NH <sub>2</sub>	TR			60	-	O	-	-	+	+	-	O	-	-	+	+
Hydrogen bromide solution																	
Hydroxybenzene																	
Hydroxysuccinic Acid	HOOC-CH <sub>2</sub> -CHOH-COOH	50			20	+ <sup>1)</sup>	+	-	+ <sup>1)</sup>	+	+	O	+	+	+	+	+
Hydroxysuccinic Acid	HOOC-CH <sub>2</sub> -CHOH-COOH	50			40	+ <sup>1)</sup>	+	-	+ <sup>1)</sup>	+	+	O	+	+	+	+	+
Hydroxysuccinic Acid	HOOC-CH <sub>2</sub> -CHOH-COOH	50			60	+ <sup>1)</sup>	+	-	+ <sup>1)</sup>	+	+	O	+	+	+	+	+

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Hydroxy Acetic Acid						see glycolic acid											
Isobutanol						see isobutyl alcohol											
Isobutyl Alcohol	C <sub>4</sub> H <sub>10</sub> O	100	0,81	AII	20	+	+	+	+	+	+	+	+	-	+	+	+
Isobutyl Alcohol	C <sub>4</sub> H <sub>10</sub> O	100			40	+	+	+	+	+	+	+	+	-	+	+	+
Isobutyl Alcohol	C <sub>4</sub> H <sub>10</sub> O	100			60	+	+	+	+	+	+	+	-	+	+	+	+
Isocyanate					20	+	+	+	-	-	+	o	+	+	-	+	+
Isooctane	C <sub>8</sub> H <sub>18</sub>	TR		AI	20	+	+	+	+	+	+	+	+	+	+	+	+
Isooctanol	C <sub>8</sub> H <sub>17</sub> CH(C <sub>2</sub> H <sub>5</sub> )	TR	0,83	AIII	20	+	+	+	+	+	+	+	+	o	+	+	+
Isopropanol						see propyl alcohol											
Butyl Acetate	C <sub>5</sub> H <sub>10</sub> O <sub>2</sub>		0,87	AI	20	+ <sup>1)</sup>	+	o	o	+	+	o	-	+	+	+	+
Isopropyl Ether	C <sub>3</sub> H <sub>8</sub> O	TR	0,73	AI	20	+ <sup>1)</sup>	+	o	o	+	+	-	-	-	-	+	+
Isopropyl Ether	C <sub>3</sub> H <sub>8</sub> O	TR			40	+ <sup>1)</sup>	+	o	o	o	+	-	-	-	-	+	+
Isopropyl Ether	C <sub>3</sub> H <sub>8</sub> O	TR			60	+ <sup>1)</sup>	+	o	o	o	+	-	-	-	-	+	+
Iodoform						see triiodinemethane											
Iodine Preparations		H			20	o	+	o	+	+	+	+	+	+	+	+	o
Iodine Preparations		H			40	o	+	o	+	+	+	+	+	+	+	+	o
Iodine Preparations		H			60	o	+	o	+	+	+	+	+	+	+	+	o
Hydriodic Acid	HJ	TR			20	o	o	-	+ <sup>1)</sup>	+	+	-	+	+	+	+	+
Hydriodic Acid	HJ	TR			40	o	o	-	+ <sup>1)</sup>	+	+	-	+	o	+	+	+
Hydriodic Acid	HJ	TR			60	-	o	-	+ <sup>1)</sup>	+	+	-	+	o	+	+	+
Potash Bleaching Solution						see potassium hypochlorite											
Caustic potash						see potassium hydroxide											
Salt peter						see potassium nitrate											
Potassium Aluminium Sulphate	KAl(SO <sub>4</sub> ) <sub>2</sub> ·2H <sub>2</sub> O	50			20	+	+	+	+	+	+	+	+	+	+	+	+
Potassium Aluminium Sulphate	KAl(SO <sub>4</sub> ) <sub>2</sub> ·2H <sub>2</sub> O	50			40	+	+	+	+	+	+	+	+	o	+	+	+
Potassium Aluminium Sulphate	KAl(SO <sub>4</sub> ) <sub>2</sub> ·2H <sub>2</sub> O	50			60	+	+	+	+	+	+	+	-	+	+	+	+
Potassium Bichromate						see potassium dichromate											
Potassium Bromate	KBrO <sub>3</sub> ·H <sub>2</sub> O	GL			20	+	+	+	+	+	+	+	+	+	+	+	+
Potassium Bromate	KBrO <sub>3</sub> ·H <sub>2</sub> O	GL			40	+	+	+	+	+	+	+	+	+	+	+	+
Potassium Bromate	KBrO <sub>3</sub> ·H <sub>2</sub> O	GL			60	+	+	+	+	+	+	+	+	+	+	+	+
Potassium Bromide	KBr + H <sub>2</sub> O	10	1,37		20	+	+	-	+	+	+	+	+	+	+	+	+
Potassium Bromide	KBr + H <sub>2</sub> O	10			40	+	+	-	+	+	+	+	+	+	+	+	+
Potassium Bromide	KBr + H <sub>2</sub> O	10			60	o	+	-	+	+	+	+	+	+	+	+	+
Potassium Bromide	KBr + H <sub>2</sub> O	GL			20	+	+	-	+	+	+	+	+	+	+	+	+
Potassium Bromide	KBr + H <sub>2</sub> O	GL			40	+	+	-	+	+	+	+	+	+	+	+	+
Potassium Bromide	KBr + H <sub>2</sub> O	GL			60	o	+	-	+	+	+	+	+	+	+	+	+
Potassium Carbonate	K <sub>2</sub> CO <sub>3</sub>	GL			20	+	+	-	+	+	+	+	+	+	+	+	+
Potassium Carbonate	K <sub>2</sub> CO <sub>3</sub>	GL			40	+	+	-	+	+	+	+	+	+	+	+	+
Potassium Carbonate	K <sub>2</sub> CO <sub>3</sub>	GL			60	+	+	-	+	+	+	+	+	+	+	+	+
Potassium Chlorate	KClO <sub>3</sub>	50			20	+	+	-	+	+	+	+	+	+	+	+	+
Potassium Chlorate	KClO <sub>3</sub>	50			40	+	+	-	+	+	+	+	+	o	+	+	+
Potassium Chlorate	KClO <sub>3</sub>	50			60	o	+	-	+	+	+	+	+	-	+	+	+
Potassium Chloride	KCl	10			20	o	+	-	+	+	+	+	+	+	+	+	+
Potassium Chloride	KCl	10			40	o	+	-	+	+	+	+	+	+	+	+	+
Potassium Chloride	KCl	10			60	o	o	-	+	+	+	+	+	+	+	+	+
Potassium Chloride	KCl	GL	1,17		20	o	+	-	+	+	+	+	+	+	+	+	+
Potassium Chloride	KCl	GL			40	o	+	-	+	+	+	+	+	+	+	+	+
Potassium Chloride	KCl	GL			60	o	o	-	+	+	+	+	+	+	+	+	+
Potassium Cyanide	KCN	50			20	+	+	-	+	+	+	+	+	+	+	+	+
Potassium Cyanide	KCN	50			40	+	+	-	+	+	+	+	+	o	+	+	+
Potassium Cyanide	KCN	50			60	+	+	-	+	+	+	+	+	o	+	+	+
Potassium Cyanide	KCN	GL	1,31		20	+	+	-	+	+	+	+	+	+	+	+	+
Potassium Cyanide	KCN	GL			40	+	+	-	+	+	+	+	+	+	+	+	+
Potassium Cyanide	KCN	GL			60	+	+	-	+	o	+	+	+	+	+	+	+
Potassium Dichromate	K <sub>2</sub> Cr <sub>2</sub> O <sub>7</sub>	40			20	+	+	-	+	+	+	+	+	+	+	+	+

TR = technically pure, GL = saturated solution; H = commercial composition

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<sup>1)</sup> not resistant with flow meter FMC, <sup>2)</sup> Drum pump F 424 with shaft in titanium resistant



## Resistance Chart

Description	Chemical Formula	Concentration in %	Density [kg/dm <sup>3</sup> ]	Hazard class (VdF)	Temperature [in °C]	Stainless steel (1.4571)	Hastelloy C (2.4610)	Aluminium	PP	PVDF	ETFE	PPS	FKM	NBR	EPDM	PTFE/FEP	FFKM
Potassium Ferricyanide	K <sub>3</sub> Fe(CN) <sub>6</sub>	10			20	+	+	+	+	+	+	+	+	+	+	+	+
Potassium Ferricyanide	K <sub>3</sub> Fe(CN) <sub>6</sub>	10			40	+	+	+	+	+	+	+	+	+	+	+	+
Potassium Ferricyanide	K <sub>3</sub> Fe(CN) <sub>6</sub>	10			60	+	+	+	+	+	+	+	+	+	+	+	+
Potassium Ferricyanide	K <sub>3</sub> Fe(CN) <sub>6</sub>	20	1,11		20	+	+	+	+	+	+	+	+	+	+	+	+
Potassium Ferricyanide	K <sub>3</sub> Fe(CN) <sub>6</sub>	20			40	+	+	+	+	+	+	+	+	+	+	+	+
Potassium Ferricyanide	K <sub>3</sub> Fe(CN) <sub>6</sub>	20			60	+	+	+	+	+	+	+	+	+	+	+	+
Potassium Ferricyanide	K <sub>3</sub> Fe(CN) <sub>6</sub>	GL			20	+	+	+	+	+	+	+	+	+	+	+	+
Potassium Ferricyanide	K <sub>3</sub> Fe(CN) <sub>6</sub>	GL			40	+	+	+	+	+	+	+	+	+	+	+	+
Potassium Ferricyanide	K <sub>3</sub> Fe(CN) <sub>6</sub>	GL			60	+	+	+	+	+	+	+	+	+	+	+	+
Potassium Ferrocyanide	K <sub>2</sub> Fe(CN) <sub>5</sub>	10			20	+ <sup>1)</sup>	+	+	+ <sup>1)</sup>	+	+	O	+	+	+	+	+
Potassium Ferrocyanide	K <sub>2</sub> Fe(CN) <sub>5</sub>	10			40	+ <sup>1)</sup>	+	+	+ <sup>1)</sup>	+	+	O	+	+	+	+	+
Potassium Ferrocyanide	K <sub>2</sub> Fe(CN) <sub>5</sub>	10			60	+ <sup>1)</sup>	+	+	+ <sup>1)</sup>	+	+	O	+	+	+	+	+
Potassium Ferrocyanide	K <sub>2</sub> Fe(CN) <sub>5</sub>	16	1,11		20	+ <sup>1)</sup>	+	+	+ <sup>1)</sup>	+	+	O	+	+	+	+	+
Potassium Ferrocyanide	K <sub>2</sub> Fe(CN) <sub>5</sub>	16			40	+ <sup>1)</sup>	+	+	+ <sup>1)</sup>	+	+	O	+	+	+	+	+
Potassium Ferrocyanide	K <sub>2</sub> Fe(CN) <sub>5</sub>	16			60	+ <sup>1)</sup>	+	+	+ <sup>1)</sup>	+	+	O	+	+	+	+	+
Potassium Ferrocyanide	K <sub>2</sub> Fe(CN) <sub>5</sub>	GL			20	+ <sup>1)</sup>	+	+	+ <sup>1)</sup>	+	+	O	+	+	+	+	+
Potassium Ferrocyanide	K <sub>2</sub> Fe(CN) <sub>5</sub>	GL			40	+ <sup>1)</sup>	+	+	+ <sup>1)</sup>	+	+	O	+	+	+	+	+
Potassium Ferrocyanide	K <sub>2</sub> Fe(CN) <sub>5</sub>	GL			60	+ <sup>1)</sup>	+	+	+ <sup>1)</sup>	+	+	O	+	+	+	+	+
Potassium Ferrocyanide	K <sub>2</sub> Fe(CN) <sub>5</sub>	GL			60	+ <sup>1)</sup>	+	+	+ <sup>1)</sup>	+	+	O	+	+	+	+	+
Potassium Hydroxide	KOH	20	1,19		20	+	+	-	+	+	+	-	O	+	+	+	+
Potassium Hydroxide	KOH	20			40	+	+	-	+	+	+	-	O	O	+	+	+
Potassium Hydroxide	KOH	20			60	+	+	-	+	+	+	-	O	O	+	+	+
Potassium Hydroxide	KOH	30	1,29		20	+	+	-	+	+	+	-	O	+	+	+	+
Potassium Hydroxide	KOH	30			40	+	+	-	+	+	+	-	O	O	+	+	+
Potassium Hydroxide	KOH	30			60	+	+	-	+	+	+	-	O	O	+	+	+
Potassium Hydroxide	KOH	60	1,63		20	+	+	-	+	+	+	-	-	+	+	+	+
Potassium Hydroxide	KOH	60			40	+	+	-	+	+	+	-	-	+	+	+	+
Potassium Hydroxide	KOH	60			60	+	+	-	+	+	+	-	-	+	+	+	+
Potassium Hypochlorite	KClO	15			20	O	+	-	O	+	+	+	-	+	+	+	+
Potassium Hypochlorite	KClO	15			40	O	+	-	O	+	+	+	-	O	+	+	+
Potassium Hypochlorite	KClO	15			60	O	O	-	+	+	+	+	-	-	+	+	+
Potassium Iodide	KI	50	1,55		20	+	+	+	+	+	+	+	+	+	+	+	+
Potassium Iodide	KI	50			40	+	+	+	+	+	+	+	+	O	+	+	+
Potassium Iodide	KI	50			60	O	+	+	+	+	+	+	+	O	+	+	+
Potassium Iodide	KI	GL			20	+	+	+	+	+	+	+	+	+	+	+	+
Potassium Iodide	KI	GL			40	+	+	+	+	+	+	+	+	O	+	+	+
Potassium Iodide	KI	GL			60	O	+	+	O	+	+	+	+	O	+	+	+
Potassium Nitrate	KNO <sub>3</sub>	10			20	+	+	+	+	+	+	+	+	+	+	+	+
Potassium Nitrate	KNO <sub>3</sub>	10			40	+	+	+	+	+	+	+	+	+	+	+	+
Potassium Nitrate	KNO <sub>3</sub>	10			60	+	+	+	+	+	+	+	+	+	+	+	+
Potassium Nitrate	KNO <sub>3</sub>	24	1,17		20	+	+	+	+	+	+	+	+	+	+	+	+
Potassium Nitrate	KNO <sub>3</sub>	24			40	+	+	+	+	+	+	+	+	+	+	+	+
Potassium Nitrate	KNO <sub>3</sub>	24			60	+	+	+	+	+	+	+	+	+	+	+	+
Potassium Oxalate	K <sub>2</sub> (CO <sub>3</sub> ) <sub>2</sub>				20	+	+	-	+	+	+	+	-	+	+	+	+
Potassium Oxalate	K <sub>2</sub> (CO <sub>3</sub> ) <sub>2</sub>				40	+	+	-	+	+	+	+	-	+	+	+	+
Potassium Oxalate	K <sub>2</sub> (CO <sub>3</sub> ) <sub>2</sub>				60	+	+	-	+	+	+	+	-	+	+	+	+
Potassium Permanganate	KMnO <sub>4</sub>	6	1,04		20	+	+	+	+	+	+	+	+	O	+	+	+
Potassium Permanganate	KMnO <sub>4</sub>	6			40	+	+	+	+	+	+	+	+	O	+	+	+
Potassium Permanganate	KMnO <sub>4</sub>	6			60	+	+	+	+	+	+	+	+	O	+	+	+
Potassium Permanganate	KMnO <sub>4</sub>	18			20	+	+	+	+	+	+	+	+	O	+	+	+
Potassium Permanganate	KMnO <sub>4</sub>	18			40	+	+	+	+	+	+	+	+	O	+	+	+
Potassium Sulphate	K <sub>2</sub> SO <sub>4</sub>	10	1,08		20	+	+	+	+	+	+	+	+	+	+	+	+
Potassium Sulphate	K <sub>2</sub> SO <sub>4</sub>	10			40	+	+	+	+	+	+	+	+	+	+	+	+
Potassium Sulphate	K <sub>2</sub> SO <sub>4</sub>	10			60	+	+	+	+	+	+	+	+	+	+	+	+
Milk of Lime						see calcium hydroxide											
Camphor	C <sub>10</sub> H <sub>16</sub> O				20	+	+	+	+	+	+	+	+	O	+	O	+

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<sup>1)</sup> not resistant with flow meter FMC, <sup>2)</sup> Drum pump F 424 with shaft in titanium resistant



## Resistance Chart

Description	Chemical Formula	Concentration in %	Density [kg/dm³]	Hazard class (VdF)	Temperature [in °C]	Stainless steel (1.4571)	Hastelloy C (2.4610)	Aluminium	PP	PVDF	ETFE	PPS	FKM	NBR	EPDM	PTFE/FEP	FFKM	
Camphor	C <sub>10</sub> H <sub>16</sub> O				40	+	+	+	+	+	+	+	o	o	o	o	+	+
Camphor	C <sub>10</sub> H <sub>16</sub> O				60	+	+	+	+	+	+	+	o	o	o	o	+	+
Carbolic Acid					see phenol													
Caster Oil					see ricinus oil													
Kerosene					see petroleum													
Kerosine					see petroleum													
Pine Needle Oil					see essential oils													
Hydrofluorosilicic acid					see hydrofluosilic acid													
Silicic Acid	Si(OH) <sub>4</sub>	TR			20	+	+	-	+	+	+	+	+	-	+	+	+	
Silicic Acid	Si(OH) <sub>4</sub>	TR			40	+	+	-	+	+	+	+	+	-	+	+	+	
Silicic Acid	Si(OH) <sub>4</sub>	TR			60	+	+	-	+	+	+	+	+	-	+	+	+	
Sodium Chloride	NaCl	20			20	o	+	+	+	+	+	+	+	+	+	+	+	
Sodium Chloride	NaCl	20			40	o	+	+	+	+	+	+	+	+	+	+	+	
Sodium Chloride	NaCl	20			60	o	o	o	o	+	+	+	+	o	+	+	+	
Carbon disulfide					see carbon bisulphide													
Carbon tetrachloride					see carbon tetrachloride													
Aqua Regia	3HCl+HNO <sub>3</sub>				20	-	-	-	-	o	+	-	o	-	o	+	+	
Aqua Regia	3HCl+HNO <sub>3</sub>				40	-	-	-	-	+	-	-	-	-	-	+	+	
Aqua Regia	3HCl+HNO <sub>3</sub>				60	-	-	-	-	+	-	-	-	-	-	+	+	
Cuprous Chloride	CuCl	10			20	o	+	-	+	+	+	+	+	+	+	+	+	
Cuprous Chloride	CuCl	10			40	o	+	-	+	+	+	+	+	+	+	+	+	
Cuprous Chloride	CuCl	10			60	o	+	-	+	+	+	+	+	+	+	+	+	
Cupric Chloride	CuCl <sub>2</sub>	20	1,21		20	o	+	-	+	+	+	+	+	+	+	+	+	
Cupric Chloride	CuCl <sub>2</sub>	20			40	o	+	-	+	+	+	+	+	+	+	+	+	
Cupric Chloride	CuCl <sub>2</sub>	20			60	o	+	-	+	+	+	+	+	+	+	+	+	
Copper Acetate	(CH <sub>3</sub> CO <sub>2</sub> ) <sub>2</sub> Cu	50			20	+	+	-	+	+	+	+	+	+	+	+	+	
Copper Acetate	(CH <sub>3</sub> CO <sub>2</sub> ) <sub>2</sub> Cu	50			40	+	+	-	+	+	+	+	+	+	+	+	+	
Copper Acetate	(CH <sub>3</sub> CO <sub>2</sub> ) <sub>2</sub> Cu	50			60	+	+	-	+	+	+	+	+	o	+	+	+	
Nantokite					see cuprous chloride													
Copper Nitrate	Cu(NO <sub>3</sub> ) <sub>2</sub>	25	1,25		20	+	+	+	o	+	+	+	+	+	+	+	+	
Copper Nitrate	Cu(NO <sub>3</sub> ) <sub>2</sub>	25			40	+	+	+	o	+	+	+	+	+	+	+	+	
Copper Nitrate	Cu(NO <sub>3</sub> ) <sub>2</sub>	25			60	+	+	+	o	+	+	+	+	o	+	+	+	
Copper Sulphate	CuSO <sub>4</sub>	18	1,21		20	+	+	-	+	+	+	+	+	+	+	+	+	
Copper Sulphate	CuSO <sub>4</sub>	18			40	+	+	-	+	+	+	+	+	+	+	+	+	
Copper Sulphate	CuSO <sub>4</sub>	18			60	+	+	-	+	+	+	+	+	+	+	+	+	
Copper Sulphate	CuSO <sub>4</sub>	GL			20	+	+	-	o	+	+	+	+	+	+	+	+	
Copper Sulphate	CuSO <sub>4</sub>	GL			40	+	+	-	o	+	+	+	+	+	+	+	+	
Copper Sulphate	CuSO <sub>4</sub>	GL			60	+	+	-	o	+	+	+	+	o	+	+	+	
Vitriol of copper					see copper sulphate													
Lanolin		TR			20	+	+	+	o	+	+	+	+	+	o	+	+	
Lanolin		TR			40	+	+	+	-	+	+	+	+	+	-	+	+	
Lanolin		TR			60	+	+	+	-	+	+	+	+	o	-	+	+	
Lauric Acid	C <sub>12</sub> H <sub>24</sub> O <sub>2</sub>	TR			20	+	+	-	+ <sup>1)</sup>	+	+	-	+	-	-	+	+	
Lauric Acid	C <sub>12</sub> H <sub>24</sub> O <sub>2</sub>	TR			40	+ <sup>1)</sup>	+	-	+ <sup>1)</sup>	+	+	-	+	-	-	+	+	
Lauric Acid	C <sub>12</sub> H <sub>24</sub> O <sub>2</sub>	TR			60	+ <sup>1)</sup>	+	-	+ <sup>1)</sup>	+	+	-	+	-	-	+	+	
Linseed oil		TR			20	+	+	+	+	+	+	+	+	+	+	+	+	
Linseed oil		TR			40	+	+	+	+	+	+	+	+	+	o	+	+	
Linseed oil		TR			60	+	+	+	o	+	+	+	+	+	-	+	+	
Lithium Chloride	LiCl	45	1,30		20	o	+	-	+	+	+	+	+	+	+	+	+	
Lithium Chloride	LiCl	45			40	o	+	-	+	+	+	+	+	+	+	+	+	
Lithium Chloride	LiCl	45			60	-	o	-	+	+	+	+	+	+	+	+	+	
Lithium Sulphate	LiSO <sub>4</sub>	25	1,23		20	+	+	+	+	+	+	+	+	+	+	+	+	
Lithium Sulphate	LiSO <sub>4</sub>	25			40	+	+	+	+	+	+	+	+	+	+	+	+	
Lithium Sulphate	LiSO <sub>4</sub>	25			60	+	+	+	+	+	+	+	+	+	+	+	+	
Magnesium Chloride	MgCl <sub>2</sub>	10			20	o	+	-	+	+	+	+	+	+	+	+	+	

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Description	Chemical Formula	Concentration in %	Density [kg/dm³]	Hazard class (VbF)	Temperature [in °C]	Stainless steel (1.4571)	Hastelloy C (2.4610)	Aluminium	PP	PVDF	ETFE	PPS	FKM	NBR	EPDM	PTFE/FEP	FFKM			
Magnesium Chloride	MgCl₂	10			40	o	+	-	+	+	+	+	+	+	+	+	+			
Magnesium Chloride	MgCl₂	10			60	o	+	-	+	+	+	+	+	+	+	+	+			
Magnesium Chloride	MgCl₂	GL			20	o	+	-	+	+	+	+	+	+	+	+	+			
Magnesium Chloride	MgCl₂	GL			40	o	+	-	+	+	+	+	+	+	+	+	+			
Magnesium Chloride	MgCl₂	GL			60	o	+	-	+	+	+	+	+	+	+	+	+			
Magnesium Nitrate	Mg(NO₃)₂	25	1,21		20	+	+	+	+	+	+	+	+	+	+	+	+			
Magnesium Nitrate	Mg(NO₃)₂	25			40	+	+	+	+	+	+	+	+	+	+	+	+			
Magnesium Nitrate	Mg(NO₃)₂	25			60	+	+	+	+	+	+	+	+	+	+	+	+			
Magnesium Sulphate	MgSO₄	10			20	+	+	+	+	+	+	+	+	+	+	+	+			
Magnesium Sulphate	MgSO₄	10			40	+	+	+	+	+	+	+	+	+	+	+	+			
Magnesium Sulphate	MgSO₄	10			60	+	+	+	+	+	+	+	+	+	+	+	+			
Magnesium Sulphate	MgSO₄	GL	1,28		20	+	+	+	+	+	+	+	+	+	+	+	+			
Magnesium Sulphate	MgSO₄	GL			40	+	+	+	+	+	+	+	+	+	+	+	+			
Magnesium Sulphate	MgSO₄	GL			60	+	+	+	+	+	+	+	+	+	+	+	+			
Corn oil		TR			20	+	+	-	+	+	+	+	+	+	+	+	+			
Corn oil		TR			40	+	+	-	+	+	+	+	+	+	o	+	+			
Corn oil		TR			60	+	+	-	o	+	+	+	+	+	-	+	+			
Maleic Acid	C₂H₂O₄	35			20	+	+	-	+	+	+	+	+	-	+	+	+			
Maleic Acid	C₂H₂O₄	35			40	+	+	-	+	+	+	+	+	-	+	+	+			
Maleic Acid	C₂H₂O₄	GL			20	+	+	-	+	+	+	+	+	-	o	+	+			
Maleic Acid	C₂H₂O₄	GL			40	+	+	-	+	+	+	+	+	-	-	+	+			
Maleic Acid	C₂H₂O₄	GL			60	+	+	-	+	+	+	+	+	-	-	+	+			
Magnesium Chloride	MnCl₂	20	1,19		20	o	+	-	+	+	+	+	+	+	+	+	+			
Magnesium Chloride	MnCl₂	20			40	o	+	-	+	+	+	+	+	+	+	+	+			
Magnesium Chloride	MnCl₂	20			60	-	o	-	+	+	+	+	+	o	+	+	+			
Chloride of manganese						see magnesium chloride														
Sea Water					20	o	+	-	+	+	+	+	+	+	+	+	+	+	+	+
Sea Water					40	o	+	-	+	+	+	+	+	+	o	+	+	+	+	+
Sea Water					60	o	+	-	+	+	+	+	+	+	o	+	+	+	+	+
Methanol	CH₃OH	TR	B		20	+	+	+	+	+	+	+	o	o	o	+	+	+	+	
Methanol	CH₃OH	TR			40	+	+	+	+	+	+	+	o	o	o	+	+	+	+	
Methanol	CH₃OH	TR			60	+	+	o	+	+	+	+	o	-	o	+	+	+	+	
Acetic Methyl Ester	CH₃CO₂CH₃	100	0,93	AI	20	+	+	-	+	+	+	+	-	-	-	-	+	+	+	
Acetic Methyl Ester	CH₃CO₂CH₃	100			40	+	+	-	+	o	+	+	-	-	-	-	+	+	+	
Acetic Methyl Ester	CH₃CO₂CH₃	100			60	+	+	-	+	-	+	+	-	-	-	-	+	+	+	
Methyl Alcohol						see methanol														
Methyl Benzene						see toluene														
Methyl Cellosolve						see methyl glycol														
Methyl Cyanide						see acetonitrile														
Methylene Chloride	CH₂Cl₂		1,33		20	+	+	-	o	o	+ <sup>1)</sup>	+	o	-	o	+	+	+	+	+
Methylene Chloride	CH₂Cl₂				40	+	+	-	o	o	+ <sup>1)</sup>	+	o	-	-	+	+	+	+	+
Methyl ester						see acetic methyl ester														
Methyl Ethyl Ketone (MEK)						see butanone														
Methyl Glycol	(CH₃)₂OHOCH₃		0,98		20	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Methyl Glycol	(CH₃)₂OHOCH₃				40	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Methyl Glycol	(CH₃)₂OHOCH₃				60	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Methyl Isobutyl Ketone (MIBK)	C₆H₁₀O		AI		20	+	+	-	-	+	+	+	o	o	o	+	+	+	+	+
Methyl Pentanon						see methyl isobutyl ketone														
Methyl Sulphuric Acid	H₂SO₄-CH₃	50			20	o	o	-	o	o	+	+	-	o	-	+	+	+	+	+
Methyl Sulphuric Acid	H₂SO₄-CH₃	50			40	-	o	-	o	+	+	-	o	-	+	+	+	+	+	+
Methyl Sulphuric Acid	H₂SO₄-CH₃	50			60	-	-	-	-	+	+	-	-	-	-	o	+	+	+	+
Methyl Sulphuric Acid	H₂SO₄-CH₃	TR			20	o	o	-	-	+	+	-	o	-	+	+	+	+	+	+
Methyl Sulphuric Acid	H₂SO₄-CH₃	TR			40	-	o	-	-	+	+	-	o	-	+	+	+	+	+	+
Methyl Sulphuric Acid	H₂SO₄-CH₃	TR			60	-	o	-	-	+	+	-	-	-	-	o	+	+	+	+
Milk						20	+	+	+	+	+	+	+	+	+	+	+	+	+	+

TR = technically pure, GL = saturated solution; H = commercial composition

+ = resistant, o = limited resistance, - = not resistant

<sup>1)</sup> not resistant with flow meter FMC, <sup>2)</sup> Drum pump F 424 with shaft in titanium resistant



## Resistance Chart

Description	Chemical Formula	Concentration in %	Density [kg/dm³]	Hazard class (VbF)	Temperature [in °C]	Stainless steel (1.4571)	Hastelloy C (2.4610)	Aluminium	PP	PVDF	ETFE	PPS	FKM	NBR	EPDM	PTFE/FEP	FFKM		
Lactic acid	C <sub>3</sub> H <sub>6</sub> O <sub>3</sub>	10			20	+	+	-	+	+	+	+	+	o	+	+	+		
Lactic acid	C <sub>3</sub> H <sub>6</sub> O <sub>3</sub>	10			40	+	+	-	+	+	+	+	+	-	+	+	+		
Lactic acid	C <sub>3</sub> H <sub>6</sub> O <sub>3</sub>	10			60	+	+	-	+	+	+	+	+	-	+	+	+		
Lactic acid	C <sub>3</sub> H <sub>6</sub> O <sub>3</sub>	90			20	+	+	-	+	+	+	+	+	-	+	+	+		
Lactic acid	C <sub>3</sub> H <sub>6</sub> O <sub>3</sub>	90			40	o	+	-	+	o	+	+	+	-	+	+	+		
Lactic acid	C <sub>3</sub> H <sub>6</sub> O <sub>3</sub>	90			60	o	+	-	+	o	+	+	+	-	o	+	+		
Mineral oils					20	+	+	+	+	+	+	+	+	-	+	+	+		
Mineral oils					40	+	+	+	+	+	+	+	+	-	+	+	+		
Mineral oils					60	+	+	+	o	+	+	+	+	-	+	+	+		
Mineral Water					20	+	+	+	+	+	+	+	+	+	+	+	+		
Mineral Water					40	+	+	+	+	+	+	+	+	+	+	+	+		
Mineral Water					60	+	+	+	+	+	+	+	+	+	+	+	+		
Mirbane					see nitrobenzene														
Monochloracetic Acid					see chloroacetic acid														
Finger Nail Polish Remover					see acetone														
Naptha					see mineral oil														
Naphthenic Acid					see fatty acids														
Sodium Acetate	CH <sub>3</sub> COONa	10			20	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Sodium Acetate	CH <sub>3</sub> COONa	10			40	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Sodium Acetate	CH <sub>3</sub> COONa	10			60	+	+	+	+	+	+	+	+	+	o	+	+	+	+
Sodium Benzoate	C <sub>6</sub> H <sub>5</sub> NaO <sub>2</sub>	10			20	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Sodium Benzoate	C <sub>6</sub> H <sub>5</sub> NaO <sub>2</sub>	10			40	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Sodium Benzoate	C <sub>6</sub> H <sub>5</sub> NaO <sub>2</sub>	10			60	+	+	+	+	+	+	+	+	+	o	+	+	+	+
Sodium Benzoate	C <sub>6</sub> H <sub>5</sub> NaO <sub>2</sub>	36			20	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Sodium Benzoate	C <sub>6</sub> H <sub>5</sub> NaO <sub>2</sub>	36			40	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Sodium Benzoate	C <sub>6</sub> H <sub>5</sub> NaO <sub>2</sub>	36			60	+	+	+	+	+	+	+	+	+	o	+	+	+	+
Sodium Benzoate	C <sub>6</sub> H <sub>5</sub> NaO <sub>2</sub>	GL			20	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Sodium Benzoate	C <sub>6</sub> H <sub>5</sub> NaO <sub>2</sub>	GL			40	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Sodium Bicarbonate	NaHCO <sub>3</sub>	10	1,07		20	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Sodium Bicarbonate	NaHCO <sub>3</sub>	10			40	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Sodium Bicarbonate	NaHCO <sub>3</sub>	10			60	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Sodium Bichromate	Na <sub>2</sub> Cr <sub>2</sub> O <sub>7</sub>	10			20	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Sodium Bichromate	Na <sub>2</sub> Cr <sub>2</sub> O <sub>7</sub>	10			40	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Sodium Bichromate	Na <sub>2</sub> Cr <sub>2</sub> O <sub>7</sub>	10			60	+	+	+	+	+	+	+	+	+	o	+	+	+	+
Sodium Chlorate	NaClO <sub>3</sub>	25	1,23		20	+	+	-	+	+	+	+	+	+	+	+	+	+	+
Sodium Chlorate	NaClO <sub>3</sub>	25			40	+	+	-	+	+	+	+	+	+	o	+	+	+	+
Sodium Chlorate	NaClO <sub>3</sub>	25			60	o	+	-	+	+	+	+	+	+	-	+	+	+	+
Sodium chloride					see sodium chloride														
Sodium Chlorite	NaClO <sub>2</sub>	5			20	o	+	-	+	+	+	+	+	+	+	+	+	+	+
Sodium Chlorite	NaClO <sub>2</sub>	5			40	-	o	-	+	+	+	+	+	+	+	+	+	+	+
Sodium Chlorite	NaClO <sub>2</sub>	5			60	-	o	-	+	+	+	+	+	+	o	+	+	+	+
Sodium Dichromate					see sodium bichromate														
Sodium Fluoride	NaF	4	1,04		20	+	+	-	+	+	+	+	+	+	+	+	+	+	+
Sodium Fluoride	NaF	4			40	+	+	-	+	+	+	+	+	+	o	+	+	+	+
Sodium Fluoride	NaF	4			60	o	+	-	+	+	+	+	+	+	o	+	+	+	+
Sodium hydroxide	NaOH	10	1,16		20	+	+	-	+	o	+	+	+	+	+	o	o	+	+
Sodium hydroxide	NaOH	10			40	+	+	-	+	o	+	+	+	+	+	+	+	+	+
Sodium hydroxide	NaOH	10			60	+	+	-	+	o	+	+	+	o	o	+	+	+	+
Sodium hydroxide	NaOH	30	1,33		20	+	+	-	+	o	+	+	o	o	+	+	+	+	+
Sodium hydroxide	NaOH	30			40	+	+	-	+	o	+	+	+	o	o	+	+	+	+
Sodium hydroxide	NaOH	30			60	+	+	-	+	o	+	+	+	o	o	+	+	+	+
Sodium hydroxide	NaOH	50	1,53		20	+	+	-	+	o	+	+	+	o	o	+	+	+	+
Sodium hydroxide	NaOH	50			40	+	+	-	+	o	+	+	o	-	+	+	+	+	+
Sodium hydroxide	NaOH	50			60	o	+	-	+	o	+	+	+	-	-	+	+	+	+
Sodium Hypochlorite	NaOCl	10			20	o	+	-	+	+	+	+	+	+	-	+	+	+	+

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<sup>1)</sup> not resistant with flow meter FMC, <sup>2)</sup> Drum pump F 424 with shaft in titanium resistant



## Resistance Chart

Description	Chemical Formula	Concentration in %	Density [kg/dm³]	Hazard class (VbF)	Temperature [in °C]	Stainless steel (1.4571)	Hastelloy C (2.4610)	Aluminium	PP	PVDF	ETFE	PPS	FKM	NBR	EPDM	PTFE/FEP	FFKM		
Sodium Hypochlorite	NaOCl	12,5			20	o	+	-	+	+	+	+	+	-	+	+	+		
Sodium Hypochlorite	NaOCl	12,5			40	o	+	-	o	+	+	+	o	-	o	+	+		
Sodium Hypochlorite	NaOCl	20			20	o	+	-	+	+	+	+	+	-	+	+	+		
Sodium Hypochlorite	NaOCl	20			40	o	+	-	o	+	+	+	o	-	o	+	+		
Sodium Hypochlorite	NaOCl	20			60	o	+	-	-	+	+	+	o	-	o	+	+		
Sodium Hyposulphide					see sodium thiosulphate														
Sodium Nitrate	NaNO <sub>3</sub>	45	1,37		20	+	+	+	+	+	+	+	+	+	+	+	+	+	
Sodium Nitrate	NaNO <sub>3</sub>	45			40	+	+	+	+	+	+	+	+	+	+	+	+	+	
Sodium Nitrate	NaNO <sub>3</sub>	45			60	+	+	+	+	+	+	+	+	+	+	+	+	+	
Sodium Nitrite	NaNO <sub>2</sub>	50			20	+	+	+	+	+	+	+	+	+	+	+	+	+	
Sodium Nitrite	NaNO <sub>2</sub>	50			40	+	+	+	+	+	+	+	+	+	o	+	+	+	
Sodium Nitrite	NaNO <sub>2</sub>	50			60	+	+	+	+	+	+	+	+	-	+	+	+	+	
Sodium Perchlorate	NaClO <sub>4</sub>	25	1,18		20	o	+	+	+ <sup>1)</sup>	+	+	-	+	+	+	+	+	+	
Sodium Perchlorate	NaClO <sub>4</sub>	25			40	o	+	+	+ <sup>1)</sup>	+	+	-	+	+	+	+	+	+	
Sodium Perchlorate	NaClO <sub>4</sub>	25			60	o	+	o	+ <sup>1)</sup>	+	+	-	+	o	+	+	+	+	
Sodium Phosphate	Na <sub>3</sub> PO <sub>4</sub>	10			20	+	+	+	+	+	+	+	+	+	+	+	+	+	
Sodium Phosphate	Na <sub>3</sub> PO <sub>4</sub>	10			40	+	+	+	+	+	+	+	+	+	+	+	+	+	
Sodium Phosphate	Na <sub>3</sub> PO <sub>4</sub>	10			60	+	+	+	+	+	+	+	+	+	+	+	+	+	
Sodium Silicate					see sodium silicate														
Sodium Sulphate	Na <sub>2</sub> SO <sub>4</sub>	50	1,46		20	+	+	+	+	+	+	+	+	+	+	+	+	+	
Sodium Sulphate	Na <sub>2</sub> SO <sub>4</sub>	50			40	+	+	+	+	+	+	+	+	+	+	+	+	+	
Sodium Sulphate	Na <sub>2</sub> SO <sub>4</sub>	50			60	+	+	+	+	+	+	+	+	+	+	+	+	+	
Sodium Sulphite	Na <sub>2</sub> SO <sub>3</sub>	GL	1,18		20	+	+	+	+	+	+	+	+	+	+	+	+	+	
Sodium Sulphite	Na <sub>2</sub> SO <sub>3</sub>	GL			40	+	+	o	+	+	+	+	+	o	+	+	+	+	
Sodium Sulphite	Na <sub>2</sub> SO <sub>3</sub>	GL			60	+	+	-	+	+	+	+	+	-	+	+	+	+	
Sodium borate					see borax														
Sodium Thiosulphate	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	40			20	+	+	+	+	+	+	+	+	o	+	+	+	+	
Sodium Thiosulphate	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	40			40	+	+	+	+	+	+	+	+	o	-	+	+	+	
Sodium Thiosulphate	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	40			60	+	+	+	o	+	+	+	+	-	-	+	+	+	
Sodium hypochlorite solution					see sodium hypochlorite														
Caustic soda					see sodium hydroxide														
Clove oil					see essential oils														
Nickel Chloride	NiCl <sub>2</sub>	20	1,22		20	o	+	-	+	+	+	+	+	+	+	+	+	+	+
Nickel Chloride	NiCl <sub>2</sub>	20			40	o	+	-	+	+	+	+	+	+	+	+	+	+	+
Nickel Chloride	NiCl <sub>2</sub>	20			60	o	+	-	+	+	+	+	+	o	+	+	+	+	+
Nickel Nitrate	Ni(NO <sub>3</sub> ) <sub>2</sub>	35	1,38		20	+	+	-	+	+	+	+	+	+	+	+	+	+	+
Nickel Nitrate	Ni(NO <sub>3</sub> ) <sub>2</sub>	35			40	+	+	-	+	+	+	+	+	+	+	+	+	+	+
Nickel Nitrate	Ni(NO <sub>3</sub> ) <sub>2</sub>	35			60	+	+	-	+	+	+	+	+	o	+	+	+	+	+
Nickel Sulphate	NiSO <sub>4</sub>	10	1,21		20	+	+	-	+	+	+	+	+	+	+	+	+	+	+
Nickel Sulphate	NiSO <sub>4</sub>	10			40	+	+	-	+	+	+	+	+	+	+	+	+	+	+
Nickel Sulphate	NiSO <sub>4</sub>	10			60	+	+	-	+	+	+	+	+	+	+	+	+	+	+
Nicotine	C <sub>10</sub> H <sub>14</sub> N <sub>2</sub>				20	+	+	-	-	+	+	+	+	o	+	+	+	+	+
Nitrobenzene	C <sub>6</sub> H <sub>5</sub> NO <sub>2</sub>	TR	1,21	AIII	20	+	+	+	+	+	+	+	+	o	o	o	+	+	+
Nitrobenzene	C <sub>6</sub> H <sub>5</sub> NO <sub>2</sub>	TR			40	+	+	+	o	+	+	+	+	o	o	-	+	+	+
Nitrobenzene	C <sub>6</sub> H <sub>5</sub> NO <sub>2</sub>	TR			60	+	+	+	o	+	+	+	+	o	-	-	+	+	+
Nitro acid					see nitric acid														
Nitrotoluene	C <sub>7</sub> H <sub>7</sub> NO <sub>2</sub>	TR			20	+	+	+	+	+	+	+	+	o	o	o	o	+	+
Nitrotoluene	C <sub>7</sub> H <sub>7</sub> NO <sub>2</sub>	TR			40	+	+	+	+	+	+	+	+	o	o	-	+	+	+
Nitrotoluene	C <sub>7</sub> H <sub>7</sub> NO <sub>2</sub>	TR			60	+	+	+	o	+	+	+	+	o	o	-	+	+	+
Octal					see diethyl phthalate														
Isooctane	C <sub>8</sub> H <sub>18</sub>	TR		AI	20	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Octanoic acid	CH <sub>3</sub> (CH <sub>2</sub> ) <sub>6</sub> COOH		0,92		20	+ <sup>1)</sup>	+	-	+ <sup>1)</sup>	+	+	o	+	-	+	+	+	+	+
Octanoic acid	CH <sub>3</sub> (CH <sub>2</sub> ) <sub>6</sub> COOH				40	+ <sup>1)</sup>	+	-	o	+	+	o	+	-	o	+	+	+	+
Octanoic acid	CH <sub>3</sub> (CH <sub>2</sub> ) <sub>6</sub> COOH				60	+ <sup>1)</sup>	+	-	+	+	+	o	o	-	-	+	+	+	+
Oil					see mineral oil														

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## Resistance Chart

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Oleinic acid																	
see oleic acid																	
Oleum	H <sub>2</sub> SO <sub>4</sub> +SO <sub>3</sub>				20	+ <sup>1)</sup>	+	-	-	-	+	-	+	-	-	+	+
Oleic acid	C <sub>18</sub> H <sub>34</sub> O <sub>2</sub>	TR	0,90		20	+	+	-	+	+	+	+	+	o	-	+	+
Oleic acid	C <sub>18</sub> H <sub>34</sub> O <sub>2</sub>	TR			40	+	+	-	+	+	+	+	o	o	-	+	+
Oleic acid	C <sub>18</sub> H <sub>34</sub> O <sub>2</sub>	TR			60	+	+	-	o	+	+	+	o	-	-	+	+
Oxalic Acid	(CO <sub>2</sub> H) <sub>2</sub>	10			20	+	+	-	+	+	+	+	+	+	+	+	+
Oxalic Acid	(CO <sub>2</sub> H) <sub>2</sub>	10			40	+	+	-	o	+	+	+	+	+	+	+	+
Oxalic Acid	(CO <sub>2</sub> H) <sub>2</sub>	10			60	+	+	-	o	+	+	+	+	+	+	+	+
Oxalic Acid	(CO <sub>2</sub> H) <sub>2</sub>	GL	1,65		20	+ <sup>1)</sup>	+	-	+ <sup>1)</sup>	+	+	o	+	o	+	+	+
Oxalic Acid	(CO <sub>2</sub> H) <sub>2</sub>	GL			40	+ <sup>1)</sup>	+	-	o	+	+	o	+	o	o	+	+
Oxalic Acid	(CO <sub>2</sub> H) <sub>2</sub>	GL			60	+ <sup>1)</sup>	+	-	o	o	+	o	+	o	o	+	+
Oxaloacetic acid 2.2	see diglycolic acid																
Palatinol C	see dibutyl phthalate																
Paraffin Oil	C <sub>n</sub> H <sub>n</sub>	TR	0,93		20	+	+	+	+	+	+	+	+	+	-	+	+
Paraffin Oil	C <sub>n</sub> H <sub>n</sub>	TR			40	+	+	+	+	+	+	+	+	o	-	+	+
Paraffin Oil	C <sub>n</sub> H <sub>n</sub>	TR			60	+	+	+	+	+	+	+	+	o	-	+	+
Pectin		10			20	+	+	+	+	+	+	+	+	+	+	+	+
Pentanol-1	see amyl alcohol																
Pentyl Acetate	see amyl acetate																
Pentyl Chloride	see amyl chloride																
Perchloroethylene	C <sub>2</sub> Cl <sub>4</sub>	TR			20	+	+	-	-	+	+ <sup>1)</sup>	+	+	+	-	+	+
Perchloroethylene	C <sub>2</sub> Cl <sub>4</sub>	TR			40	+	+	-	-	+	+ <sup>1)</sup>	+	+	-	-	+	+
Perchloroethylene	C <sub>2</sub> Cl <sub>4</sub>	TR			60	o	+	-	-	+	+ <sup>1)</sup>	+	+	-	-	+	+
Perchloric Acid	HClO <sub>4</sub>	20			20	+	+	-	+	+	+	+	+	-	+	+	+
Perchloric Acid	HClO <sub>4</sub>	20			40	+	+	-	+	+	+	+	+	-	+	+	+
Perchloric Acid	HClO <sub>4</sub>	20			60	+	+	-	+	+	+	+	+	o	-	o	+
Perchloric Acid	HClO <sub>4</sub>	50	1,40		20	+	+	-	+	+	+	+	+	-	+	+	+
Perchloric Acid	HClO <sub>4</sub>	50			40	+	+	-	+	+	+	+	+	-	+	+	+
Perchloric Acid	HClO <sub>4</sub>	50			60	+	+	-	o	+	+	+	o	-	o	+	+
Perchloric Acid	HClO <sub>4</sub>	70	1,55		20	+	+	-	+	+	+	+	+	-	+	+	+
Perchloric Acid	HClO <sub>4</sub>	70			40	+	+	-	+	+	+	+	+	-	+	+	+
Perchloric Acid	HClO <sub>4</sub>	70			60	+	+	-	+	+	+	+	+	-	+	+	+
Perchloric Acid	HClO <sub>4</sub>	70			60	+	+	-	+	+	+	+	+	-	+	+	+
Perchloric Acid	HClO <sub>4</sub>	GL			20	+	+	-	+	+	+	+	+	-	+	+	+
Perchloric Acid	HClO <sub>4</sub>	GL			40	+	+	-	o	+	+	+	+	-	+	+	+
Perchloric Acid	HClO <sub>4</sub>	GL			60	o	+	-	+	+	+	+	+	-	+	+	+
Peracatic acid		TR			20	+	-	-	-	+	+	-	-	-	-	+	-
Peracatic acid		TR			40	+	-	-	-	+	+	-	-	-	-	+	-
Peracatic acid		TR			60	+	-	-	-	+	+	-	-	-	-	+	-
Petroleum ether		TR	0,69	All	20	+	+	+	-	+	+	+	+	o	+	+	+
Petroleum ether		TR			40	+	+	+	-	+	+	+	+	o	-	+	+
Petroleum ether		TR			60	+	+	+	-	+	+	+	+	o	-	+	+
Petroleum		TR	0,81	All	20	+ <sup>1)</sup>	+	+	+ <sup>1)</sup>	+	+	o	+	+	o	+	+
Petroleum		TR			40	+ <sup>1)</sup>	+	+	+ <sup>1)</sup>	+	+	o	+	+	-	+	+
Petroleum		TR			60	+ <sup>1)</sup>	+	+	+ <sup>1)</sup>	+	+	o	+	+	-	+	+
Phenol	C <sub>6</sub> H <sub>5</sub> O	100			20	+	+	+	+	+	+	+	+	+	+	+	+
Phenol	C <sub>6</sub> H <sub>5</sub> O	100			40	+	+	+	+	+	+	+	+	+	o	+	+
Phenol	C <sub>6</sub> H <sub>5</sub> O	100			60	+	+	+	+	+	+	+	+	+	o	+	+
Phenol	C <sub>6</sub> H <sub>5</sub> O	50			20	+	+	+	+	+	+	+	+	+	+	+	+
Phenol	C <sub>6</sub> H <sub>5</sub> O	50			40	+	+	+	+	+	+	+	+	+	o	+	+
Phenol	C <sub>6</sub> H <sub>5</sub> O	50			60	+	+	+	+	+	+	+	+	+	o	+	+
Phenol	C <sub>6</sub> H <sub>5</sub> O	90			20	+	+	+	+	+	+	+	+	+	-	+	+
Phenol	C <sub>6</sub> H <sub>5</sub> O	90			40	+	+	+	+	+	+	+	+	o	+	-	+
Phenol	C <sub>6</sub> H <sub>5</sub> O	90			60	+	+	+	+	+	+	+	+	o	o	-	+
Phenyl Chloride	see chlorobenzene																
Phosphor Chloride	see phosphorous trichloride																

TR = technically pure, GL = saturated solution; H = commercial composition

+ = resistant, o = limited resistance, - = not resistant

<sup>1)</sup> not resistant with flow meter FMC, <sup>2)</sup> Drum pump F 424 with shaft in titanium resistant



## Resistance Chart

Description	Chemical Formula		Concentration in %	Density [kg/dm³]	Hazard class (VbF)	Temperature [in °C]	Stainless steel (1.4571)	Hastelloy C (2.4610)	Aluminium	PP	PVDF	ETFE	PPS	FKM	NBR	EPDM	PTFE/FEP	FFKM	
Phosphoric Acid	H <sub>3</sub> PO <sub>4</sub>	30	1,18		20	+	+	-	+	+	+	+	+	o	+	+	+	+	
Phosphoric Acid	H <sub>3</sub> PO <sub>4</sub>	30			40	+	+	-	+	+	+	+	+	o	+	+	+		
Phosphoric Acid	H <sub>3</sub> PO <sub>4</sub>	30			60	+	+	-	+	+	+	+	+	-	+	+	+		
Phosphoric Acid	H <sub>3</sub> PO <sub>4</sub>	50			20	+	+	-	+	+	+	+	+	o	+	+	+		
Phosphoric Acid	H <sub>3</sub> PO <sub>4</sub>	50			40	+	+	-	+	+	+	+	+	o	+	+	+		
Phosphoric Acid	H <sub>3</sub> PO <sub>4</sub>	50			60	o	+	-	+	+	+	+	+	-	+	+	+		
Phosphoric Acid	H <sub>3</sub> PO <sub>4</sub>	85	1,69		20	+	+	-	+	+	+	+	+	-	+	+	+		
Phosphoric Acid	H <sub>3</sub> PO <sub>4</sub>	85			40	+	+	-	+	+	+	+	+	-	+	+	+		
Phosphoric Acid	H <sub>3</sub> PO <sub>4</sub>	85			60	o	+	-	+	+	+	+	o	-	+	+	+		
Phosphoric Acid	H <sub>3</sub> PO <sub>4</sub>	95	1,70		20	-	+	-	+	+	+	+	o	+	-	o	+	+	
Phosphoric Acid	H <sub>3</sub> PO <sub>4</sub>	95			40	-	+	-	o	+	+	o	+	-	o	+	+		
Phosphorous Trichloride	POCl <sub>3</sub>	TR	1,57		20	+	+	-	+	+	+	+	+	-	+	+	+	+	
Phosphorous Trichloride	POCl <sub>3</sub>	TR			40	o	o	-	o	+	+	+	+	-	+	+	+		
Phosphorous Trichloride	POCl <sub>3</sub>	TR			60	-	-	-	o	+	+	+	+	-	+	+	+		
Phthalic Acid	C <sub>6</sub> H <sub>4</sub> (COOH) <sub>2</sub> +H <sub>2</sub> O	50			20	+	+	-	+	+	+	+	+	-	+	+	+		
Phthalic Acid	C <sub>6</sub> H <sub>4</sub> (COOH) <sub>2</sub> +H <sub>2</sub> O	50			40	+	+	-	+	+	+	+	+	-	+	+	+		
Phthalic Acid	C <sub>6</sub> H <sub>4</sub> (COOH) <sub>2</sub> +H <sub>2</sub> O	50			60	+	+	-	+	+	+	+	+	-	+	+	+		
Phthalic Acid	C <sub>6</sub> H <sub>4</sub> (COOH) <sub>2</sub> +H <sub>2</sub> O	GL	1,59		20	+	+	-	+	+	+	+	o	-	+	+	+		
Phthalic Acid	C <sub>6</sub> H <sub>4</sub> (COOH) <sub>2</sub> +H <sub>2</sub> O	GL			40	+	+	-	+	+	+	+	o	-	+	+	+		
Phthalic Acid	C <sub>6</sub> H <sub>4</sub> (COOH) <sub>2</sub> +H <sub>2</sub> O	GL			60	+	+	-	+	+	+	+	-	-	o	+	+		
Polyol			1,78		20	+	+	+	-	+	+	+	+	+	+	+	+	+	
Potash					see potassium carbonate														
Propanediol					see propylene glycol														
Propyl Alcohol	C <sub>3</sub> H <sub>8</sub> O	TR		B	20	+	+	+	+	+	+	+	+	+	+	o	+	+	
Propyl Alcohol	C <sub>3</sub> H <sub>8</sub> O	TR			40	+	+	+	+	+	+	+	+	+	+	o	+	+	
Propyl Alcohol	C <sub>3</sub> H <sub>8</sub> O	TR			60	+	+	+	+	+	+	+	+	+	+	o	+	+	
Propane					see acetone														
Propane					see propylene oxide														
Propionic Acid	C <sub>3</sub> H <sub>6</sub> O <sub>2</sub>	50			20	+	+	-	+	+	+	+	+	-	o	+	+		
Propionic Acid	C <sub>3</sub> H <sub>6</sub> O <sub>2</sub>	50			40	+	+	-	+	+	+	+	+	-	o	+	+		
Propionic Acid	C <sub>3</sub> H <sub>6</sub> O <sub>2</sub>	50			60	+	+	-	+	+	+	+	+	-	o	+	+		
Propionic Acid	C <sub>3</sub> H <sub>6</sub> O <sub>2</sub>	TR	0,99		20	+	+	-	+	+	+	+	+	-	+	+	+	+	
Propionic Acid	C <sub>3</sub> H <sub>6</sub> O <sub>2</sub>	TR			40	+	+	-	o	+	+	+	+	-	+	+	+		
Propionic Acid	C <sub>3</sub> H <sub>6</sub> O <sub>2</sub>	TR			60	+	+	-	o	+	+	+	+	-	o	+	+		
Propyl Acetate					see butyl acetate														
Propylene Aldehyde	C <sub>3</sub> H <sub>6</sub> O	TR		AI	20	+	+	+	-	+	+	+	+	+	+	+	+	+	
Propylene Glycol	C <sub>3</sub> H <sub>8</sub> O <sub>2</sub>	TR	1,04		20	+	+	+	+	+	+	+	+	+	+	+	+	+	
Propylene Glycol	C <sub>3</sub> H <sub>8</sub> O <sub>2</sub>	TR			40	+	+	+	+	+	+	+	+	+	o	+	+	+	
Propylene Glycol	C <sub>3</sub> H <sub>8</sub> O <sub>2</sub>	TR			60	+	+	+	+	+	+	+	+	o	-	+	+	+	
Propylene Oxide	C <sub>3</sub> H <sub>6</sub> O	TR	0,83	AI	20	+	+	+	+	+	+	+	+	-	-	-	+	+	
Propylene Oxide	C <sub>3</sub> H <sub>6</sub> O	TR			40	+	+	+	+	+	+	+	+	-	-	+	+	+	
Pyranone					see dimatecone alcohol														
Pyridine	C <sub>5</sub> H <sub>5</sub> N	TR	0,99	B	20	+	+	+	o	+	+	+	o	-	+	+	+	+	
Pyridine	C <sub>5</sub> H <sub>5</sub> N	TR			40	+	+	+	o	+	+	+	+	-	o	+	+	+	
Pyridine	C <sub>5</sub> H <sub>5</sub> N	TR			60	+	+	+	o	o	+	+	-	-	o	+	+	+	
Pyrogallol	C <sub>6</sub> H <sub>6</sub> (OH) <sub>3</sub> -1,2,3	10			20	+	+	+	+	+	+	+	+	o	+	+	+	+	
Pyrogallol	C <sub>6</sub> H <sub>6</sub> (OH) <sub>3</sub> -1,2,3	10			40	+	+	+	+	+	+	+	+	-	+	+	+	+	
Pyrogallol	C <sub>6</sub> H <sub>6</sub> (OH) <sub>3</sub> -1,2,3	10			60	+	+	+	+	+	+	+	+	-	+	+	+	+	
Pyrogallol acid					see pyrogallol														
Mercury Cyanide	Hg(CN) <sub>2</sub>	TR			20	+	+	-	+	+	+	+	+	+	+	+	+	+	
Mercury Cyanide	Hg(CN) <sub>2</sub>	TR			40	+	+	-	+	+	+	+	+	+	+	+	+	+	
Mercury Cyanide	Hg(CN) <sub>2</sub>	TR			60	+	+	-	+	+	+	+	+	o	+	+	+	+	
Mercury Nitrate	Hg(NO <sub>3</sub> ) <sub>2</sub>	GL			20	+	+	-	+	+	+	+	+	+	o	+	+	+	
Mercury Nitrate	Hg(NO <sub>3</sub> ) <sub>2</sub>	GL			40	+	+	-	+	+	+	+	+	+	o	+	+	+	

TR = technically pure, GL = saturated solution; H = commercial composition

+ = resistant, o = limited resistance, - = not resistant

<sup>1)</sup> not resistant with flow meter FMC, <sup>2)</sup> Drum pump F 424 with shaft in titanium resistant



## Resistance Chart

Description	Chemical Formula		Concentration in %	Density [kg/dm³]	Hazard class (VbF)	Temperature [in °C]	Stainless steel (1.4571)	Hastelloy C (2.4610)	Aluminium	PP	PVDF	ETFE	PPS	FKM	NBR	EPDM	PTFE/FEP	FFKM
Mercury Nitrate	Hg(NO <sub>3</sub> ) <sub>2</sub>	GL			60	+ + - + + + + + + + - + + +												
Ricinus oil		H	0,96		20	+ + + + + + + + + + + + + + +												
Ricinus oil		H			40	+ + + + + + + + + + + + + + +												
Ricinus oil		H			60	+ + + + + + + + + + + + + + +												
Salmiak						see ammonium chloride												
Spirits of ammonia						see ammonia water												
Nitric acid	HNO <sub>3</sub>	10	1,05		20	+ <sup>1)</sup> + - + <sup>1)</sup> + + o + - + +												
Nitric acid	HNO <sub>3</sub>	10			40	+ <sup>1)</sup> + - o + + o + - + +												
Nitric acid	HNO <sub>3</sub>	10			60	+ <sup>1)</sup> + - o + + o + - + +												
Nitric acid	HNO <sub>3</sub>	30	1,18		20	+ <sup>1)</sup> + - o + + - + + - + +												
Nitric acid	HNO <sub>3</sub>	30			40	+ <sup>1)</sup> + - o + + - + + - + +												
Nitric acid	HNO <sub>3</sub>	30			60	o + - - + + - + + - + +												
Nitric acid	HNO <sub>3</sub>	50	1,31		20	+ <sup>1)</sup> + - o + + - + + - + +												
Nitric acid	HNO <sub>3</sub>	50			40	o + - - + + - + + - + +												
Nitric acid	HNO <sub>3</sub>	50			60	o o - - + + - + + - o - - + +												
Nitric acid	HNO <sub>3</sub>	65	1,41		20	+ <sup>1)</sup> + - - + + - + + - o - - + +												
Nitric acid	HNO <sub>3</sub>	65			40	o + - - + + - + + - o - - + +												
Nitric acid	HNO <sub>3</sub>	65			60	o o - - + + - + + - o - - + +												
Nitrous acid	HNO <sub>2</sub>				20	o + - o + + + + + + + + + +												
Nitrous acid	HNO <sub>2</sub>				40	o + - o + + + + + + + + + +												
Nitrous acid	HNO <sub>2</sub>				60	o + - o + + + + + + + + + +												
Hydrochloric Acid	HCl	10	1,05		20	- + - + + + + + + + + + + +												
Hydrochloric Acid	HCl	10			40	- o - + + + + + + + + + + +												
Hydrochloric Acid	HCl	10			60	- o - + + + + + + + + + + +												
Hydrochloric Acid	HCl	30	1,15		20	- + - + + + + + + + + + +												
Hydrochloric Acid	HCl	30			40	- o - + + + + + + + + + +												
Hydrochloric Acid	HCl	30			60	- o - + + + + + + + + + +												
Hydrochloric Acid	HCl	konz.	1,20		20	- + - + + + + + + + + + +												
Hydrochloric Acid	HCl	konz.			40	- o - + + + + + + + + + +												
Hydrochloric Acid	HCl	konz.			60	- o - o + + o o o o - o + +												
Sulphur Chloride	S.Cl <sub>2</sub>	10			20	o + o o + + - + + - + + +												
Sulphur ether						see ether												
Carbon Bisulphide	CS <sub>2</sub>	TR	1,27	AI	20	+ <sup>1)</sup> + + + + + + + + + + +												
Carbon Bisulphide	CS <sub>2</sub>	TR			40	+ <sup>1)</sup> + + o + + + o + + +												
Carbon Bisulphide	CS <sub>2</sub>	TR			60	+ + + + o + + + - + + - + +												
Sulphuric Acid	H <sub>2</sub> SO <sub>4</sub>	40	1,30		20	o + - + + + + + + + + + +												
Sulphuric Acid	H <sub>2</sub> SO <sub>4</sub>	40			40	- + - + + + + + + + + + +												
Sulphuric Acid	H <sub>2</sub> SO <sub>4</sub>	40			60	- o - o + + + + + + + + +												
Sulphuric Acid	H <sub>2</sub> SO <sub>4</sub>	80	1,73		20	o + - + + + + + + + + + +												
Sulphuric Acid	H <sub>2</sub> SO <sub>4</sub>	80			40	- o - + + + + + + + + + +												
Sulphuric Acid	H <sub>2</sub> SO <sub>4</sub>	80			60	- o - o + + + + + + + + +												
Sulphuric Acid	H <sub>2</sub> SO <sub>4</sub>	90	1,82		20	+ <sup>1)</sup> + - o + + + o + + +												
Sulphuric Acid	H <sub>2</sub> SO <sub>4</sub>	90			40	o + - o + + + + + + + + +												
Sulphuric Acid	H <sub>2</sub> SO <sub>4</sub>	90			60	o + - o + + + + + + + + +												
Sulphuric Acid	H <sub>2</sub> SO <sub>4</sub>	98	1,84		20	+ <sup>1)</sup> + - o + + + o + + +												
Sulphuric Acid	H <sub>2</sub> SO <sub>4</sub>	98			40	o + - o + + + + + + + + +												
Sulphuric Acid	H <sub>2</sub> SO <sub>4</sub>	98			60	o + - o + + + + + + + + +												
Sulphurous Acid	H <sub>2</sub> SO <sub>3</sub>	50			20	o + - + + + + + + + + +												
Sulphurous Acid	H <sub>2</sub> SO <sub>3</sub>	50			40	o + - + + + + + + + + +												
Sulphurous Acid	H <sub>2</sub> SO <sub>3</sub>	50			60	- o - + + + + + + + + +												
Silver Nitrate	AgNO <sub>3</sub>	8	1,07		20	+ + - + + + + + + + + +												
Silver Nitrate	AgNO <sub>3</sub>	8			40	+ + - + + + + + + + + +												
Silver Nitrate	AgNO <sub>3</sub>	8			60	+ + - + + + + + + + + +												
Silicone oil		TR	1,06		20	+ + + + + + + + + + + +												
Silicone oil		TR			40	+ + + + + + + + + + + +												

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<sup>1)</sup> not resistant with flow meter FMC, <sup>2)</sup> Drum pump F 424 with shaft in titanium resistant



## Resistance Chart

Description	Chemical Formula	Concentration in %	Density [kg/dm³]	Hazard class (VbF)	Temperature [in °C]	Stainless steel (1.4571)	Hastelloy C (2.4610)	Aluminium	PP	PVDF	ETFE	PPS	FKM	NBR	EPDM	PTFE/FEP	FFKM		
Silicone oil		TR			60	+	+	+	+	+	+	+	+	o	+	+			
Soda					see sodium bicarbonate														
Cooking oil		H			20	+	+	+	+	+	+	+	+	+	+	+	+	+	
Cooking oil		H			40	+	+	+	+	+	+	+	+	+	o	+	+	+	
Cooking oil		H			60	+	+	+	o	+	+	+	+	-	+	-	+	+	
Spindle oil		TR			20	+	+	+	+	+	+	+	+	o	+	+	+		
Spindle oil		TR			40	+	+	+	o	+	+	+	+	-	+	+	+		
Spindle oil		TR			60	+	+	+	o	+	+	+	o	o	-	+	+		
Spiritus					see ethanol														
Starch gum					see dextrose														
Styrene	<chem>C6H5CH=CH2</chem>	TR	0,91	All	20	+	+	+	o	o	+	+	o	-	-	+	+		
Sulphite liquor					see calcium bisulphite														
Sylvite					see potassium chloride														
Oil of terpine		H	0,86		20	+	+	+	-	+	+	+	+	-	+	+	+	+	
Oil of terpine		H			40	+	+	+	-	o	+	+	+	+	-	+	+	+	
Oil of terpine		H			60	+	+	+	-	o	+	+	+	+	-	+	+	+	
White spirit				All	+ <sup>1)</sup>	+	+	+ <sup>1)</sup>	+	+	o	+	o	-	+	+	+		
Tetrachlorethane	<chem>CCl4</chem>	TR	1,60		20	+	+	-	o	+	+	+	o	-	-	+	+		
Tetrachlorethane	<chem>CCl4</chem>	TR			40	+	+	-	o	+	+	+	o	-	-	+	+		
Tetrachlorethane	<chem>CCl4</chem>	TR			60	+	+	-	o	+	+	+	o	-	-	+	+		
Tetrachlorehylene					see perchloroethylene														
Carbon tetrachloride	<chem>CCl4</chem>	TR	1,59		20	+ <sup>1)</sup>	+	+	o	+	+ <sup>1)</sup>	o	+	-	o	+	+		
Carbon tetrachloride	<chem>CCl4</chem>	TR			40	+ <sup>1)</sup>	+	+	o	+	+ <sup>1)</sup>	o	+	-	-	+	+		
Carbon tetrachloride	<chem>CCl4</chem>	TR			60	+ <sup>1)</sup>	+	o	-	+	+ <sup>1)</sup>	o	+	-	-	+	+		
Butanone (MEK)	<chem>C3H6O</chem>	TR	0,89	B	20	+ <sup>1)</sup>	+	-	o	o	+	+	o	-	o	+	+		
Butanone (MEK)	<chem>C3H6O</chem>	TR			40	+ <sup>1)</sup>	+	-	-	-	+	+	o	-	-	+	+		
Butanone (MEK)	<chem>C3H6O</chem>	TR			60	+ <sup>1)</sup>	+	-	-	-	+	+	o	-	-	+	+		
Tetrahydronaphthaline					see tetralin														
Tetralin	<chem>C10H12</chem>	100	0,97	All	20	+	+	+	-	+	+	+	+	-	o	+	+		
Tetralin	<chem>C10H12</chem>	100			40	+	+	+	-	+	+	+	+	-	-	+	+		
Tetralin	<chem>C10H12</chem>	100			60	+	+	+	-	+	+	+	+	-	-	+	+		
Thiophene					see thiophene														
Thionyl Chloride	<chem>SOCl2</chem>	TR	1,66		20	+	+	-	-	+	+	+	+	-	+	+	+		
Thionyl Chloride	<chem>SOCl2</chem>	TR			40	+	+	-	-	+	+	+	+	-	+	+	+		
Thionyl Chloride	<chem>SOCl2</chem>	TR			60	+	+	-	-	+	+	+	+	-	+	+	+		
Thiophene	<chem>C3H5S</chem>			AI	20	+ <sup>1)</sup>	+	-	o	+	+	+	+	-	+	+	+		
Ink		H	1,00		20	+	+	+	+	+	+	+	+	+	+	+	+		
Toluene	<chem>C6H5</chem>		0,87	AI	20	+	+	+	o	+	+	+	o	-	o	+	+		
Toluene	<chem>C6H5</chem>				40	+	+	+	o	+	+	+	o	-	-	+	+		
Toluene	<chem>C6H5</chem>				60	+	+	+	o	+	+	+	o	-	-	+	+		
Transformer oil					20	+	+	+	o	+	+	+	+	o	+	+			
Transformer oil					40	+	+	+	o	+	+	+	+	-	+	+			
Transformer oil					60	+	+	+	o	+	+	+	+	-	+	+			
Glucose Solution	<chem>C6H12O6</chem>	GL	1,13		20	+	+	+	+	+	+	+	+	+	+	+	+		
Glucose Solution	<chem>C6H12O6</chem>	GL			40	+	+	+	+	+	+	+	+	+	+	+	+		
Glucose Solution	<chem>C6H12O6</chem>	GL			60	+	+	+	+	+	+	+	+	+	+	+	+		
Tributyl Phosphate	<chem>C12H27O4P</chem>	TR	0,98		20	+	+	o	+	+	+	+	+	-	+	+	+		
Tributyl Phosphate	<chem>C12H27O4P</chem>	TR			40	+	+	o	+	+	+	+	o	-	+	+	+		
Tributyl Phosphate	<chem>C12H27O4P</chem>	TR			60	+	+	o	+	+	+	+	-	-	+	+	+		
Trichlorobenzene	<chem>C6H5Cl3</chem>				20	+ <sup>1)</sup>	+	-	o	+	+	-	+	-	+	+	+		
Trichlorobenzene	<chem>C6H5Cl3</chem>				40	+ <sup>1)</sup>	+	-	o	+	+	-	+	-	+	+	+		
Trichlorobenzene	<chem>C6H5Cl3</chem>				60	+ <sup>1)</sup>	+	-	o	+	+	-	+	-	o	+	+		
Trichloroacetic acid	<chem>CCl3CO2H</chem>	50			20	o	+	-	+	+	+	+	-	-	+	+	+		
Trichloroacetic acid	<chem>CCl3CO2H</chem>	50			40	-	+	-	+	+	+	+	-	-	o	+	+		
Trichloroacetic acid	<chem>CCl3CO2H</chem>	50			60	-	+	-	+	o	+	+	-	-	-	+	+		

TR = technically pure, GL = saturated solution; H = commercial composition

+ = resistant, o = limited resistance, - = not resistant

<sup>1)</sup> not resistant with flow meter FMC, <sup>2)</sup> Drum pump F 424 with shaft in titanium resistant



## Resistance Chart

Description	Chemical Formula	Concentration in %	Density [kg/dm³]	Hazard class (VbF)	Temperature [in °C]	Stainless steel (1.4571)	Hastelloy C (2.4610)	Aluminium	PP	PVDF	ETFE	PPS	FKM	NBR	EPDM	PTFE/FEP	FFKM
Trichloroacetic acid	CCl <sub>3</sub> CO <sub>2</sub> H	TR	1,62		20	o	+	-	+	+	+	+	-	o	+	+	+
Trichloroacetic acid	CCl <sub>3</sub> CO <sub>2</sub> H	TR			40	-	+	-	o	+	+	+	-	-	o	+	+
Trichloroacetic acid	CCl <sub>3</sub> CO <sub>2</sub> H	TR			60	-	+	-	o	o	+	+	-	-	-	+	+
Trichloroethane	C <sub>2</sub> H <sub>5</sub> Cl <sub>2</sub>	TR	1,34		20	+ <sup>1)</sup>	+	-	o	+	+	o	o	-	-	+	+
Trichloroethylene																	
Trichloroethylene	C <sub>2</sub> HCl <sub>3</sub>	50			20	+	+	-	o	+	+ <sup>1)</sup>	+	o	-	o	+	+
Trichloroethylene	C <sub>2</sub> HCl <sub>3</sub>	50			40	+	+	-	o	+	+ <sup>1)</sup>	+	o	-	-	+	+
Trichloroethylene	C <sub>2</sub> HCl <sub>3</sub>	50			60	+	+	-	o	+	+ <sup>1)</sup>	+	o	-	-	+	+
Trichloroethylene	C <sub>2</sub> HCl <sub>3</sub>	TR	1,47		20	+	+	-	o	+	+ <sup>1)</sup>	+	+	-	o	+	+
Trichloroethylene	C <sub>2</sub> HCl <sub>3</sub>	TR			40	+	+	-	o	+	+ <sup>1)</sup>	+	o	-	-	+	+
Trichloroethylene	C <sub>2</sub> HCl <sub>3</sub>	TR			60	+	+	-	-	+	+ <sup>1)</sup>	+	o	-	-	+	+
Trichloromethane																	
Trichlorophenol																	
Triethylamine	C <sub>8</sub> H <sub>15</sub> N	TR	0,73	B	20	+	+	+	+	o	+	+	+	-	+	+	+
Triethylamine	C <sub>8</sub> H <sub>15</sub> N	TR			40	+	+	+	+	o	+	+	+	-	+	+	+
Trihydroxy benzoic acid																	
Triiodinemethane	CHI <sub>3</sub>				20	+	+	-	+	+	+	+	+	o	+	+	+
Triiodinemethane	CHI <sub>3</sub>				40	+	+	-	+	+	+	+	+	+	o	+	+
Triiodinemethane	CHI <sub>3</sub>				60	+	+	-	+	+	+	+	+	o	-	+	+
Tricresyl Phosphate	PO <sub>3</sub> (C <sub>8</sub> H <sub>17</sub> CH <sub>3</sub> ) <sub>2</sub>	TR	1,13		20	+	+	+	+	+	+	+	-	o	o	+	+
Tricresyl Phosphate	PO <sub>3</sub> (C <sub>8</sub> H <sub>17</sub> CH <sub>3</sub> ) <sub>2</sub>	TR			40	+	+	+	o	+	+	+	-	-	-	+	+
Tricresyl Phosphate	PO <sub>3</sub> (C <sub>8</sub> H <sub>17</sub> CH <sub>3</sub> ) <sub>2</sub>	TR			60	+	+	+	o	+	+	+	-	-	-	+	+
Trisodium phosphate																	
Triol																	
Perchloric acid																	
Urine						20	+	+	-	+	+	+	+	+	+	+	+
Urine						40	+	+	-	+	+	+	+	+	+	+	+
Urine						60	+	+	-	+	+	+	+	+	+	+	+
Vinyl Acetate	C <sub>3</sub> H <sub>6</sub> O <sub>2</sub>	TR	0,93	AI	20	+	+	-	+	+	+	+	o	+	o	+	+
Vinyl Acetate	C <sub>3</sub> H <sub>6</sub> O <sub>2</sub>	TR			40	+	+	-	o	+	+	+	-	+	o	+	+
Vinyl Acetate	C <sub>3</sub> H <sub>6</sub> O <sub>2</sub>	TR			60	+	+	-	o	+	+	+	-	+	o	+	+
Vinyl benzol																	
Vinyl carbinol																	
Vinyl cyanide																	
Vinylidene chloride																	
Water	H <sub>2</sub> O		1,00		20	+	+	+	+	+	+	+	+	+	+	+	+
Water	H <sub>2</sub> O				40	+	+	+	+	+	+	+	+	+	+	+	+
Water	H <sub>2</sub> O				60	+	+	+	+	+	+	+	+	+	+	+	+
Water	H <sub>2</sub> O		1,00		20	+	+	o	+	+	+	+	+	+	+	+	+
Water	H <sub>2</sub> O				40	+	+	o	+	+	+	+	+	+	+	+	+
Water	H <sub>2</sub> O				60	+	+	o	+	+	+	+	+	+	o	+	+
Sodium Silicate	Na <sub>2</sub> SiO <sub>3</sub>	20	1,24		20	+	+	+	+	+	+	+	+	+	+	+	+
Sodium Silicate	Na <sub>2</sub> SiO <sub>3</sub>	20			40	+	+	+	+	+	+	+	+	+	+	+	+
Sodium Silicate	Na <sub>2</sub> SiO <sub>3</sub>	20			60	+	+	+	+	+	+	+	+	+	+	+	+
Hydrogen Peroxide	H <sub>2</sub> O <sub>2</sub>	3	1,01		20	+	+	+	+	+	+	+	+	o	+	+	+
Hydrogen Peroxide	H <sub>2</sub> O <sub>2</sub>	3			40	+	+	+	+	+	+	+	+	o	-	+	+
Hydrogen Peroxide	H <sub>2</sub> O <sub>2</sub>	3			60	+	+	+	+	+	+	+	+	o	-	o	+
Hydrogen Peroxide	H <sub>2</sub> O <sub>2</sub>	10	1,04		20	+	+	+	+	+	+	+	+	o	+	+	+
Hydrogen Peroxide	H <sub>2</sub> O <sub>2</sub>	10			40	+	+	+	+	+	+	+	+	o	-	o	+
Hydrogen Peroxide	H <sub>2</sub> O <sub>2</sub>	10			60	+	+	+	+	+	+	+	+	o	-	o	+
Hydrogen Peroxide	H <sub>2</sub> O <sub>2</sub>	20	1,07		20	+ <sup>1)</sup>	+	+	+ <sup>1)</sup>	+	+	+	o	+	o	+	+
Hydrogen Peroxide	H <sub>2</sub> O <sub>2</sub>	20			40	+ <sup>1)</sup>	+	+	+ <sup>1)</sup>	+	+	+	o	o	-	o	+
Hydrogen Peroxide	H <sub>2</sub> O <sub>2</sub>	20			60	+ <sup>1)</sup>	+	+	o	+	+	o	o	-	-	+	+
Hydrogen Peroxide	H <sub>2</sub> O <sub>2</sub>	30	1,11		20	+ <sup>1)</sup>	+	o	+ <sup>1)</sup>	+	+	o	+	-	+	+	+
Hydrogen Peroxide	H <sub>2</sub> O <sub>2</sub>	30			40	+ <sup>1)</sup>	+	o	+ <sup>1)</sup>	+	+	o	o	-	o	+	+

TR = technically pure, GL = saturated solution; H = commercial composition

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<sup>1)</sup> not resistant with flow meter FMC, <sup>2)</sup> Drum pump F 424 with shaft in titanium resistant



## Resistance Chart

Description	Chemical Formula	Concentration in %	Density [kg/dm³]	Hazard class (VoF)	Temperature [in °C]	Stainless steel (1.4571)	Hastelloy C (2.4610)	Aluminium	PP	PVDF	ETFE	PPS	FKM	NBR	EPDM	PTFE/FEP	FFKM		
Hydrogen Peroxide	H <sub>2</sub> O <sub>2</sub>	30			60 + <sup>1)</sup>	+	o	o	+	+	o	o	-	o	+	+			
Hydrogen Peroxide	H <sub>2</sub> O <sub>2</sub>	90	1,42		20 + <sup>1)</sup>	+	-	-	+	+	-	+	-	+	+	+			
Hydrogen Peroxide	H <sub>2</sub> O <sub>2</sub>	90			40 + <sup>1)</sup>	+	-	-	o	+	-	o	-	o	+	+			
Hydrogen Peroxide	H <sub>2</sub> O <sub>2</sub>	90			60 + <sup>1)</sup>	+	-	-	o	+	-	o	-	o	+	+			
Wine vinegar	H				20	+	+	o	+	+	+	+	-	o	+	+			
Wine vinegar	H				40	+	+	o	+	+	+	+	-	o	+	+			
Wine vinegar	H				60	+	+	-	+	+	+	+	-	o	o	+			
Spirit of wine					see ethyl alcohol														
Diglycolic Acid	C <sub>3</sub> H <sub>6</sub> O <sub>6</sub>	GL	1,76		20	+	+	-	+	+	+	+	+	+	+	+	+		
Diglycolic Acid	C <sub>3</sub> H <sub>6</sub> O <sub>6</sub>	GL			40	+	+	-	+	+	+	+	+	+	+	+	+		
Diglycolic Acid	C <sub>3</sub> H <sub>6</sub> O <sub>6</sub>	GL			60	+	+	-	+	+	+	+	+	o	+	+	+		
Tartaric acid					see diglycolic acid														
White spirit					see white spirit														
Wool Fat					see lanolin														
Sodium nitrate					see sodium nitrate														
Xylene	C <sub>6</sub> H <sub>4</sub> (CH <sub>3</sub> ) <sub>2</sub>	TR	0,86	All	20	+	+	+	-	+	+	+	+	-	-	+	+	+	
Xylene	C <sub>6</sub> H <sub>4</sub> (CH <sub>3</sub> ) <sub>2</sub>	TR			40	+	+	+	-	+	+	+	+	o	-	-	+	+	
Xylene	C <sub>6</sub> H <sub>4</sub> (CH <sub>3</sub> ) <sub>2</sub>	TR			60	+	+	+	-	o	+	+	o	-	-	+	+		
Toothpaste		H			20	+	+	+	+	+	+	+	+	+	+	+	+	+	
Zinc Chloride	ZnCl <sub>2</sub>	20	1,19		20	+	+	-	+	+	+	+	+	+	+	+	+	+	
Zinc Chloride	ZnCl <sub>2</sub>	20			40	+	+	-	+	+	+	+	+	+	+	+	+	+	
Zinc Chloride	ZnCl <sub>2</sub>	20			60	+	+	-	+	+	+	+	+	+	+	+	+	+	
Zinc Chloride	ZnCl <sub>2</sub>	75	2,07		20	-	+	-	+	+	+	+	+	+	+	+	+	+	
Zinc Chloride	ZnCl <sub>2</sub>	75			40	-	+	-	+	+	+	+	+	+	+	+	+	+	
Zinc Chloride	ZnCl <sub>2</sub>	75			60	-	+	-	+	+	+	+	+	+	+	+	+	+	
Zinc Sulphate	ZnSO <sub>4</sub>	10	1,11		20	+	+	o	+	+	+	+	+	+	+	+	+	+	
Zinc Sulphate	ZnSO <sub>4</sub>	10			40	+	+	o	+	+	+	+	+	+	+	+	+	+	
Zinc Sulphate	ZnSO <sub>4</sub>	10			60	+	+	o	+	+	+	+	+	+	o	+	+	+	
Zinc Sulphate	ZnSO <sub>4</sub>	GL	1,38		20	+	+	o	+	+	+	+	+	+	+	+	+	+	
Zinc Sulphate	ZnSO <sub>4</sub>	GL			40	+	+	o	+	+	+	+	+	+	+	+	+	+	
Zinc Sulphate	ZnSO <sub>4</sub>	GL			60	+	+	-	+	+	+	+	+	+	o	+	+	+	
Zinc vitriol					see zinc sulphate														
Stannous chloride (II)	SnCl <sub>2</sub>	20	1,17		20	o	+	-	+	+	+	+	+	+	+	+	+	+	
Stannous chloride (II)	SnCl <sub>2</sub>	20			40	o	+	-	+	+	+	+	+	+	+	+	+	+	
Stannous chloride (II)	SnCl <sub>2</sub>	20			60	o	+	-	+	+	+	+	+	+	+	+	+	+	
Citric Acid	C <sub>6</sub> H <sub>8</sub> O <sub>7</sub>	50	1,22		20	+	+	-	+	+	+	+	+	+	+	+	+	+	
Citric Acid	C <sub>6</sub> H <sub>8</sub> O <sub>7</sub>	50			40	o	+	-	+	+	+	+	+	+	+	+	+		
Citric Acid	C <sub>6</sub> H <sub>8</sub> O <sub>7</sub>	50			60	o	+	-	+	+	+	+	+	+	+	+	+		

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