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**Stübbe**<sup>®</sup>  
Partner for Solutions

# Chemical Resistance List



*This document is only intended as an orientation aid for material selection and is not binding. No guarantee can be given that the resistance indicated here generally applies to each individual application. Moreover, this document does not give an assurance of particular material properties.*

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### General Information on the Chemical Resistance of Materials

Plastics are ideal materials for the construction of pipework and are often superior to metals with regard to their material properties and costs. However, it is important to select the materials carefully in order to avoid material failure that can lead to costs and present a safety risk, in particular, in the case of aggressive media. As pressure/temperature curves are generally determined for the medium water, additional consideration should be given to the chemical resistance at the operating temperature of the application. This resistance list listing the chemical resistance of the thermoplastics, elastomers and bearing materials contained in our product range to a large number of media, is intended as a decision-making aid for selecting the materials. The degree of chemical resistance is classified in our list as follows:

**+ = „resistant“:**

The material is generally assessed as suitable.

**0 = „conditionally resistant“:**

The material is subject to attack by the medium. However, the material may be used under certain limited conditions. It is advisable to carry out more extensive tests.

**- = „non-resistant“:**

The material is generally assessed as unsuitable.

**not specified:**

The material has not been tested with the medium at the specified temperature.

*The resistance of materials to mixtures of chemicals may differ from their resistance to the pure media. Discolorations which are caused by some media, but have no effect on the physical properties of the materials, are not included in this list.*

The question regarding the chemical resistance of a material with the specification “resistant”, “conditionally resistant” or “non-resistant” seems simple at first glance. However, answering this question involves the consideration of complicated interrelations that have not yet been completely clarified to date. That does not mean that plastics engineers do not have access to a large number of reliable values with regard to the resistance of plastics and cannot make good predications on the resistance. However, it does mean that there is always a certain element of

uncertainty. This resistance guide is based on our own laboratory trials and our practical experience over the years.

***However, the resistance specifications cannot be applied to all possible operating conditions without taking further factors into consideration.***

For example, a general resistance list can hardly take the phenomenon of stress crack corrosion for each application into consideration. Furthermore, the type and amount of additives such as plasticizers, fillers and stabilizers have a considerable influence on the resistance of materials. This applies particularly to elastomers, whose properties are determined not only by the base material but also by the other recipe ingredients and the curing parameters. In the case of thermoplastic materials such as PVC, the type and proportion of the impact resistance modifier can lead to different degrees of resistance. This occurs especially in cases of highly concentrated contact fluids and can often only be detected with regard to long-term behaviour.

In addition to the chemical resistance of the materials used, the constructional details also influence the suitability of the finished product. PTFE, for example, is resistant to virtually all media, even at higher temperatures. Nevertheless, some media, particularly at higher pressures, are able to diffuse through PTFE layers (permeation). This must be taken into consideration for PTFE coated elastomer diaphragms.

Partly we offer product variants with an additional permeation-stopping foil (PFA or ECTFE).

***Therefore, the resistance list cannot replace conducting your own practical tests.***

Controlled individual tests must be performed on safety components subject to high stress, in particular, to reliably prove their suitability. Creep tests conducted for at least thousand hours or comparison of short-term tensile strength before and after the preselected chemical contact at the respective necessary temperature are suitable methods for determining suitability.

### Structure and Usage of this List

This is followed on the next pages:

- properties of selected materials
- list of media
- list of chemical resistances

Since different, synonymous names are common for many media, the ASV resistance list is sorted by four-digit media numbers, which can be found in the list of media. Mixed acids are precisely defined in our resistance list by the mass content (percentage) of acids related to the hole mixture. Within a name the acid components are sorted by decreasing mass content.

#### Legal Notes

This resistance list is an excerpt from a ASV-database, which is subject to continuous data maintenance. It is compiled to the best of our knowledge and based on our experience and our current knowledge. Publication of this list or excerpts there of are not permitted without the prior express permission of ASV Stübbe. In the event of a violation of this copyright we reserve the right to take legal action.

*This table only gives a simplified general overview. The product specific application limits stated in our data sheets must be kept in.*

Material	Properties	Temperature	
		min.	max.
polyvinyl chloride PVC-U, rigid PVC (non-plasticized)	Hard, rigid thermoplastic. Thermally less stressable. The material itself is notch impact sensitive, types with enhanced impact strength show good mechanical properties. Generally good resistance against aqueous media (salts, acids, lyes) and aliphatic hydrocarbons. Non-resistant to aromatic hydrocarbons, chlorinated hydrocarbons, ketones, ester and ether. Good weathering resistance when stabilized.	0°C	+60°C
polyethylene, high density PE-HD, PE 80/100 high molecular low pressure polyethylene	Tenacious, flexible to rigid depending on the crystallinity. Excellent electrical properties. Generally good resistance against aqueous media (salts, acids, lyes), many polar organic substances (alcohols, ketones, ester, organic acids) various oils and greases. Non-resistant to concentrated oxidizing acids, aromatic hydrocarbons, chlorinated hydrocarbons. Good weathering resistance when stabilized.	-20°C	+80°C
polypropylene PP-H (homopolymer)	Higher hardness and rigidity in comparison to PE, but poor tenacity in the cold. Therefore, the material below +5°C becomes brittle. Higher service temperature than PE. Very good electrical properties. Apart from that similar resistance as PE-HD, but higher tendency to stress-cracking corrosion by oxidizing media and lower UV resistance.	+5°C	+100°C
polypropylene PP-GF30 (homopolymer, reinforced with 30% glass fibres)	The glass fibre reinforcement leads to a higher rigidity but unfortunately also to a reduced chemical resistance against certain media (i.e. hydrofluoric acid, hydrochloric acid, lyes). Other characteristics are similar to non-reinforced PP-H.	0°C	+110°C
polyvinylidene difluoride PVDF (homopolymer)	Tenacious, rigid thermoplastic containing fluorine, with excellent mechanical, physical and thermal properties and excellent weathering resistance. Resistant to inorganic acids (also oxidizing), aliphatic and aromatic hydrocarbons, chlorine and bromine. Less resistant to alkaline solutions (danger of stress-cracking corrosion).	-30°C	+145°C
polytetrafluoroethylene PTFE (unfilled)	Low pressure resistance, high creep tendency, low long-time steadiness. Resistant to almost all chemicals. Very good weathering resistance. Physiologically safe.	-270°C	+260°C

## Properties of Selected Materials

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Material	Properties	Temperature	
		min.	max.
tetrafluoroethylene-hexafluoropropylene-copolymer FEP	Chemical resistance similar PTFE, but higher strength, lower creep tendency, transparent and diffusion-tight due to thermoplastic processability. Physiologically safe.	-200°C	+200°C
tetrafluoroethylene-perfluoroalkoxyvinylether-copolymer PFA	Chemical resistance similar PTFE, but higher strength, lower creep tendency, transparent and diffusion-tight due to thermoplastic processability. Physiologically safe.	-200°C	+260°C
polyamide PA12	Very good tenacity, high deformation resistance in the hot. Tenacious in the cold. Good abrasion strength, transparent. Generally good resistance to neutral aqueous media and aliphatic hydrocarbons. Non-resistant to acids, concentrated alkaline solutions and phenols. Weathering resistance: For outside application a protective coating is recommended.	-20°C	+100°C
polysulfone PSU	Good heat distortion resistance and hydrolytic stability. Well balanced, mechanical properties. Sensitive to stress-cracking corrosion. Transparent. Generally good resistance to aqueous media (salts, diluted acids, lyes) and aliphatic hydrocarbons. Non-resistant to ketones, esters, ethers, chlorinated and aromatic hydrocarbons. Weathering resistance: For outside application a protective coating is recommended.	-15°C	+160°C
ethylene-propylene-diene-rubber EPDM	Average mechanical properties, not oil-resistant. Resistant to hot water, steam, diluted acids, salt solutions, concentrated lyes, ketones and ozone. Non-Resistant to greases, oils, aliphatic, aromatic and halogenated hydrocarbons and fuels.	-40°C	+150°C
acrylonitrile-butadiene-rubber NBR	Average mechanical properties, oil-resistant. Resistant to aliphatic hydrocarbons and fuels. Non-resistant to acids, concentrated lyes and oxidizing media. Low ozone and weathering resistance.	-25°C	+120°C

## Properties of Selected Materials

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Material	Properties	Temperature	
		min.	max.
chlorosulfonyl polyethylene-rubber CSM	Average mechanical properties. Chemical resistance similar to that of EPDM, but conditionally oil-resistant.	-20°C	+130°C
fluoro-rubber FKM (= FPM)	Moderate mechanical properties, good back force capability at higher temperatures, oil-resistant. Low cold flexibility. Good resistance to various acids and salt solutions, aliphatic hydrocarbons and oxidizing media. Only moderately resistant to lyes. Non-resistant to esters, ketones and amines. Excellent weathering resistance.	-10°C	+200°C
perfluoro-rubber FFKM	Mechanical properties are similar to those of FKM, but thermally more stressable. Best chemical resistance of all mentioned rubber types. Excellent weathering resistance.	-10°C	+260°C
Hastelloy C (alloy 2.4537)	High temperature alloy on the basis of nickel, chromium and molybdenum. Very corrosion resistant to moist chlorine, aqueous solutions of chlorine, chlorides and hypochlorites, sulfuric acid, phosphoric acid, acetic acid and formic acid.		approx. +1000°C
V2A (alloy 1.4301)	Stainless, austenitic chrom-nickel steel with good corrosion resistance.		approx. +700°C
V4A (alloy 1.4571)	Stainless, austenitic chrom-nickel steel, improved corrosion resistance in comparison to 1.4301.		approx. +700°C
carbon	Synthetic resin bounded carbon. Good slip properties (used for bearings and bushes). Good thermal resistance. The chemical resistance is generally good, but in cases of strong, concentrated acids and oxidizing media reduced due to the carbon and/or synthetic resin.		approx. +200°C
silicon carbide (pressureless sintered) SSiC	For slip bearings and bushes used ceramic high performance material. High thermal and very universal chemical resistance.		approx. +1500°C

## Properties of Selected Materials

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Material	Properties	Temperature	
		min.	max.
Al <sub>2</sub> O <sub>3</sub>	Oxide ceramics on the bases of aluminium oxide (used for bearings and axes). Excellent resistance against most organic substances (especially hydrocarbons and solvents), various inorganic acids, aqueous and oxidizing media. Non-resistant to lyes at higher temperatures. Unsuitable for hydrofluoric acid.		approx. +1900°C
Al <sub>2</sub> O <sub>3</sub> Sensor	Aluminium oxide ceramics based sensors of product groups HFT und PTM. Resistance similar Al <sub>2</sub> O <sub>3</sub> , but with limitations due to the electronics embedded in the ceramic matrix.	-25°C	+125°C

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acetaldehyde	1014	acrylonitrile	1027	4-aminobenzoic acid	1049
acetamide	1015	adipic acid	1029	1-aminobutane	1161
acetanilide	1017	air	1461	aminocarboxylic acids	1052
acetic acid	1310	alkanesulfonic acids (mixtures)	1031	aminocyclohexane	1250
acetic acid amide	1015	alkyl sulfates	1332	2-aminoethanol	1313
acetic acid amyl ester	1078	allyl alcohol	1032	2-aminoglutaric acid	1358
acetic acid anilide	1017	allyl chloride	1033	(R)-2-amino-3-mercaptopropionic acid	1253
acetic acid butyl ester	1160	alum	1030	aminomethane	1482
acetic acid ethyl ester	1317	alumina	1044	aminosulfuric acid	1657
acetic acid methyl ester	1481	aluminium acetate basic	1034	ammonia, aqueous solution	1054
acetic acid potassium salt	1386	aluminium ammonium sulfate	1035	ammonia, gaseous	1053
acetic acid sodium salt	1509	aluminium chlorate	1036	ammonium acetate	1056
acetic acid vinyl ester	1695	aluminium chloride	1037	ammonium alum	1035
acetic anhydride	1016	aluminium fluoride	1040	ammonium aluminium sulfate	1035
acetone	1018	aluminium fluorosilicate	1041	ammonium benzoate	1057
acetonitrile	1020	aluminium hydroxide	1042	ammonium bicarbonate	1066
acetophenone	1021	aluminium iron(II) sulfate	1039	ammonium bisulfate	1067
acetylacetone	1022	aluminium nitrate	1043	ammonium bisulfide	1068
acetylbenzene	1021	aluminium oxide	1044	ammonium bromide	1058
acetyl chloride	1023	aluminium sulfate	1045	ammonium carbonate	1059
acetylene	1024	aluminium trifluoride	1040	ammonium chloride	1060
acetylene tetrachloride	1670	amidosulfuric acid	1657	ammonium citrate	1061
2-acetyloxybenzoic acid	1025	aminoacetic acid	1051	ammonium dichromate	1062
acetylsalicylic acid	1025	amino acids	1052	ammonium dihydrogenphosphate	1099
O-acetylsalicylic acid	1025	p-aminoazobenzene	1048	ammonium fluoride	1063
acrylic acid butyl ester	1028	aminobenzene	1083	ammonium formate	1065
acrylic acid ethyl ester	1318	4-aminobenzenesulfonic acid	1050		



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ammonium heptamolybdate	1069	aniline	1083	barium hydroxide	1103
ammonium hexafluorosilicate	1064	aniline sulfate	1084	barium nitrate	1104
ammonium hydrogencarbonate	1066	aniline sulfite	1085	barium peroxide	1105
ammonium hydrogenphosphate	1073	aniline-4-sulfonic acid	1050	barium sulfate	1106
ammonium hydrogensulfate	1067	anilinium sulfate	1084	barium sulfide	1107
ammonium hydrogensulfide	1068	anilinium sulfite	1085	baryta white	1106
ammonium hydroxide	1054	p-anisaldehyde	1086	beer	1129
ammonium iron(II) sulfate	1046	anise oil	1088	beer colour	1130
ammonium iron(III) sulfate	1763	anisole	1087	benzal chloride	1110
ammonium metatungstate	1055	antimony pentachloride	1091	benzaldehyde	1111
ammonium molybdate	1069	antimony trichloride	1092	benzaldehyde oxime	1090
ammonium nitrate	1070	antimony(III) chloride	1092	benzamide	1112
ammonium oxalate	1071	antimony(V) chloride	1091	benzene	1117
ammonium peroxodisulfate	1072	aqua regia	1425	benzenecarboxylic acid	1116
ammonium persulfate	1072	argon	2776	benzene-1,2-dicarboxylic acid	1598
ammonium rhodanide	1074	arsenic acid	1095	benzenesulfonic acid	1120
ammonium sulfamate	1075	arsenic sulfides	1096	benzine	1447
ammonium sulfate	1076	arsenic trioxide	1097	benzoic acid	1116
ammonium sulfide	1077	arsenic(III) oxide	1097	benzoic acid amide	1112
ammonium thiocyanate	1074	arsenious acid	1094	benzoic acid ammonium salt	1057
amyl acetate	1078	arsenious acid anhydride	1097	benzoic acid anhydride	1118
amyl alcohol	1079	L(+)-ascorbic acid	1098	benzoic acid calcium salt	1172
amyl alcohol (mixture of isomers)	1583	9-azafluorene	1197	benzoic acid chloride	1121
sec-amyl alcohol	1745	1-azanaphthalene	1202	benzoic acid sodium salt	1119
amyl chloride	1080	barium carbonate	1100	benzoic anhydride	1118
amyl laurate	1081	barium chloride	1101	benzophenone	1290
p-tert-amyl phenol	1082	barium cyanide	1102	benzoyl chloride	1121

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benzyl alcohol	1122	bromoethane	1147	butyl ether	1260
benzyl chloride	1123	bromoform	1149	1-butyl mercaptan	1156
N-benzyl-N-ethylaniline	1124	bromomethane	1483	4-tert-butylphenol	1164
N-benzyl-N-ethylphenylamine	1124	1,3-butadiene	1152	butyl phosphate	1165
benzylidene chloride	1110	butane	1154	butylstearate	1653
beryllium chloride	1126	butane-1,4-dicarboxylic acid	1029	1-butyne	1158
beryllium fluoride	1127	butanedioic acid	1125	butyric acid	1159
beryllium sulfate	1128	1,4-butanediol	1153	cadmium acetate	1166
biphenyl	1287	1-butanethiol	1156	cadmium chloride	1167
1,1-bis(4-chlorophenyl)-2,2,2-trichloroethane	1255	butanoic acid	1159	cadmium cyanide	1168
bis(2-hydroxyethyl)amine	1271	1-butanol	1155	cadmium sulfate	1169
bis(2-hydroxyethyl)ether	1273	2-butanol	1739	calcium acetate	1170
bisulfite lye	1131	butanone	1328	calcium acetylde	1174
borax	1546	trans-2-butenal	1239	calcium arsenate	1171
boric acid	1142	1-butene	1157	calcium benzoate	1172
boric acid trimethyl ester	1689	cis-2-butene-1,4-dioic acid	1470	calcium bicarbonate	1180
(+/-)-borneol	1417	trans-2-butenoic acid	1241	calcium bisulfite	1192
boron trichloride	1143	2-butoxyethanol	2143	calcium bromide	1173
boron trifluoride	1144	butyl Cellosolve	2143	calcium carbide	1174
brandy	1711	butyl acetate	1160	calcium carbonate	1175
brine	1624	butyl acrylate	1028	calcium chlorate	1176
brine	1525	butyl alcohol	1155	calcium chloride	1177
bromine	1148	sec-butyl alcohol	1739	calcium chloride hypochlorite	1215
1-bromobutane	1162	butylamine	1161	calcium chromate	1178
1-bromo-2-chloroethane	1145	butyl bromide	1162	calcium dihydrogenphosphate	1188
bromochloromethane	1210	butyl chloride	1163	calcium fluoride	1179
		butylene	1157	calcium hydrogencarbonate	1180

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calcium hydrogensulfide	1181	carbonyl dichloride	1591	chloroethane	1320
calcium hydrogensulfite	1192	Carbowax	1604	chloroethanol	1212
calcium hydroxide	1182	carboxylic acids > C6	1335	chloroethylene	1696
calcium hypochlorite	1183	Caro's acid	1200	chloroform	1217
calcium nitrate	1184	caustic soda	1547	1-chloro-4-hydroxy-2-methylbenzene	1216
calcium othoarsenate	1171	cetylic acid	1578	chloromethane	1484
calcium oxalate	1185	chloral	1682	chloromethyloxirane	1307
calcium permanganate	1186	chloral hydrate	1206	4-chloro-3-methylphenol	1216
calcium peroxide	1187	chloramine B	1207	1-chloropentane	1080
calcium sulfate	1189	chloric acid	1219	chlorophenol (2-, 3- a. 4-)	1218
calcium sulfide	1190	chloride of lime	1215	chloropicrin	1686
calcium sulfite	1191	chlorine	1213	3-chloro-1,2-propanediol	1361
(+/-)-camphor	1193	chlorine, aqueous solution	1224	1-chloro-2-propanone	1205
camphor oil	1194	chloroacetaldehyde	1204	3-chloropropene	1033
e-caprolactam	1195	chloroacetic acid	1211	chlorosulfonic acid	1220
e-caprolactone	1196	chloroacetic acid ethyl ester	1501	chlorosulfuric acid	1220
carbamide	1363	chloroacetic acid methyl ester	1502	chlorotoluene (2-, 3- a. 4-)	1221
carbazole	1197	chloroacetone	1205	a-chlorotoluene	1123
carbide	1174	chloroallyl chloride	1268	chlorotrifluoroethylene	1222
carbolineum	1198	chlorobenzene	1208	chromatite	1178
carbon dioxide	1423	N-chlorobenzenesulfonic acid amide sodium salt	1207	chromic acid	1232
carbon disulfide	1199	1-chlorobutane	1163	chromium alum	1226
carbon monoxide	1424	4-chloro-m-cresol	1216	chromium(III) chloride	1227
carbon tetrabromide	1669	chlorodifluoromethane	1347	chromium(III) fluoride	1228
carbon tetrachloride	1672	1-chloro-2,3-epoxypropane	1307	chromium(III) hydroxide	1229
carbonic acid diamide	1363	chloroethanal	1204	chromium(III) nitrate	1230
carbonic acid dichloride	1591			chromium(III) oxide	1231

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chromium(III) potassium sulfate	1226	crotonic acid	1241	dibutyl ether	1260
chromosulfuric acid	1236	crude oil	1309	dibutyl phthalate	1261
chromosulfuric acid	1233	cumene	1242	dichloroacetic acid	1263
chromosulfuric acid	1235	cyanamide	1243	dichlorobenzene (o-, m- a. p-)	1262
chromosulfuric acid	1237	cyanoacetic acid ethyl ester	1244	dichlorodifluoromethane	1345
chromosulfuric acid	1234	cyclohexanamine	1250	dichlorodiphenyltrichloroethane	1255
citric acid	1238	cyclohexane	1246	1,2-dichloroethane	1264
citric acid triammonium salt	1061	cyclohexanol	1247	1,1-dichloroethene	1265
citric acid trisodium salt	1528	cyclohexanone	1248	1,1-dichloroethylene	1265
cod-liver oil	1446	cyclohexene	1249	dichlorofluoromethane	1346
colamine	1313	cyclohexylamine	1250	dichloromethane	1266
condensed water	1702	cymene (o-, m- a. p-)	1252	1,2-dichloropropane	1267
copper tetramine compounds	1438	cys	1253	1,3-dichloropropene	1268
copper(I) chloride	1429	L-cysteine	1253	1,2-dichlorotetrafluoroethane	1269
copper(I) cyanide	1434	L-cystine	1254	a,a-dichlorotoluene	1110
copper(II) acetate arsenate(III)	1431	DDT	1255	Diesel fuels	1270
copper(II) carbonate basic	1432	decahydronaphthalene	1256	diethanolamine	1271
copper(II) carbonate hydroxide	1432	decaline	1256	1,2-diethoxyethane	1325
copper(II) chloride	1433	n-decane	2185	diethylamine	1272
copper(II) fluoride	1437	dextran	1257	diethylene glycol	1273
copper(II) hydroxide carbonate	1432	dextrin	1258	diethyl ether	1274
copper(II) nitrate	1435	dextrose	1259	diethyl glycol	1325
copper(II) sulfate	1436	diamine	1371	diethyl ketone	1275
creosote	1426	1,2-diaminoethane	1322	diglycol	1273
cresol (o-, m-, a. p-)	1427	dibenzene	1287	diglycolic acid	1276
cresol sulfonic acid	1428	dibenzo[b,d]pyrrole	1197	1,4-dihydroxybenzene	1373
crotonaldehyde	1239	1,2-dibromoethane	1321	diisobutyl ketone	1277

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diisopropyl ether	1278	dodecanoyl chloride	1443	ethylene	1314
N,N-dimethylacetamide	1955	EDTA	1323	ethylene bromide	1321
dimethylamine	1279	epichlorohydrin	1307	ethylene chloride	1264
N,N-dimethylaniline	1280	1,2-epoxypropane	1610	ethylene chlorohydrin	1212
dimethylbenzene (mixture of isomers)	1715	ethanal	1014	ethylenediamine	1322
dimethylene oxide	1326	ethane	1311	ethylenediaminetetraacetic acid	1323
dimethylformamide	1282	ethane-1,2-diamine	1322	ethylene glycol	1324
N,N-dimethylformamide	1282	ethane-1,2-dicarboxylic acid	1125	ethylene glycol diethyl ether	1325
2,6-dimethyl-4-heptanone	1277	ethanedioic acid	1575	ethylene glycol dinitrate	1559
1,1-dimethylhydrazine	1283	1,2-ethanediol	1324	ethylene glycol monobutyl ether	2143
dimethyl ketone	1018	ethanenitrile	1020	ethylene glycol monomethyl ether	2260
dimethyl phthalate	1284	ethanoic acid	1310	ethylene oxide	1326
dimethyl sulfate	1491	ethanoic anhydride	1016	ethyl ether	1274
1,4-dioxane	1286	ethanoic chloride	1023	2-ethyl-1-hexanol	1316
diphenyl	1287	ethanol	1312	ethyl methyl ketone	1328
diphenylamine	1288	ethanolamine	1313	N-ethyl-N-phenylbenzylamine	1124
diphenyl ether	1289	ethene	1314	ethyne	1024
diphenyl ketone	1290	ether	1274	fatty acids > C6	1335
diphenyl oxide	1289	ethinylcarbinol	1607	fatty alcohol sulfates	1332
disodium hydrogenphosphate	1285	ethyl acetate	1317	fatty alcohols	1331
disodium tetraborate	1546	ethyl acrylate	1318	fatty alcohol ethoxylate	1353
DMAc	1955	ethyl alcohol	1312	isoC13O(EO)8	
DMF	1282	ethylbenzene	1319	ferric chloride	1298
DMP	1284	ethyl bromide	1147	fish liver oil	1446
dodecanoic acid	1442	ethyl chloride	1320	fluorine	1336
dodecanoic acid pentyl ester	1081	ethyl chloroacetate	1501	fluoroboric acid	1337
1-dodecanol	1444	ethyl cyanoacetate	1244	fluorosilicic acid	1338

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fluorspar	1179	gasoline, free of lead and aromatics	1113	hydriodic acid	1383
formaldehyde	1340	gasoline, Super	1114	hydrobromic acid	1151
formamide	1341	gelatine	1356	hydrochloric acid	1623
formic acid	1047	Genapol X-080	1353	hydrocyanic acid	1132
formic acid amide	1341	D(+)-glucose	1259	hydrofluoric acid	1339
formic acid ammonium salt	1065	glutamic acid	1358	hydrogen	1708
formic acid methyl ester	1487	glycerol	1360	hydrogen chloride	1225
formic acid sodium salt	1531	glycine	1051	hydrogen cyanide	1132
Freon 11 (CFC-11, F-11)	1342	glycol	1324	hydrogen peroxide	1709
Freon 112 (CFC-112, F-112)	1343	glycolic acid	1359	hydrogen sulfide	1635
Freon 113 (CFC-113, F-113)	1344	guajacol/cresol-mixture	1426	hydrogen superoxide	1709
Freon 12 (CFC-12, F-12)	1345	gypsum	1189	hydrogen tetrafluoroborate	1337
Freon 21 (HCFC-21, F-21)	1346	n-heptane	1364	hydrogensulfite lye	1131
Freon 22 (CFC-22, F-22)	1347	hexachloroethane	1584	hydroquinone	1373
Frigen 11	1342	hexadecanoic acid	1578	hydroxyacetic acid	1359
Frigen 114	1269	hexafluorosilicic acid	1338	hydroxyaluminium diacetate	1034
D-fructose	1349	hexahydro-2H-azepin-2-one	1195	hydroxybenzene	1588
fruit juice, fermented	1565	hexahydrobenzene	1246	2-hydroxybenzoic acid	1620
fruit juice, not fermented	1564	hexahydrotoluene	1485	2-hydroxybenzoic acid methyl ester	1490
fruit juices	1348	n-hexane	1365	hydroxybutanedioic acid	1093
fruit pulp	1563	hexanedioic acid	1029	6-hydroxyhexanoic acid lactone	1196
furan	1350	1,2,6-hexanetriol	1366	hydroxylamine sulfate	1374
furfural	1351	6-hexanolide	1196	hydroxylammonium sulfate	1374
furfuryl alcohol	1352	honey	1370	2-hydroxymethylfuran	1352
2-furylaldehyde	1351	hydrazine	1371	2-hydroxy-1,2,3-propanetricarboxylic acid	1238
2-furylmethanol	1352	hydrazine hydrate	1372	3-hydroxypropene	1032
gallotannic acid	1665	hydrazinium hydroxide	1372		

## List of Media

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2-hydroxypropionic acid	1493	lactic acid sodium salt	1535	liquid manure	1379
hydroxysuccinic acid	1093	D(+)-lactobiose	1439	lithium bromide	1455
2,2'-iminodiethanol	1271	D(+)-lactose	1439	lithium carbonate	1456
iodine	1380	lanolin	1440	lithium chloride	1457
iodine potassium iodide solution	1381	latex	1441	lithium hydroxide	1459
iron oxalate	1303	lauric acid	1442	lithium sulfate	1460
iron(II) chloride	1296	lauric acid amyl ester	1081	magnesium carbonate basic	1462
iron(II) hydroxide	1297	lauric acid chloride	1443	magnesium chloride	1463
iron(II) nitrate	1301	lauroyl chloride	1443	magnesium fluoride	1464
iron(II) sulfate	1302	lauryl alcohol	1444	magnesium hydroxide	1465
iron(II)/(III) oxalate	1303	lead tetraethyl	1673	magnesium nitrate	1466
iron(III) chloride	1298	lead(II) acetate	1133	magnesium oxide	1467
iron(III) chloride sulfate	1295	lead arsenate	1134	magnesium sulfate	1468
iron(III) nitrate	1299	lead(II) carbonate	1135	magnesium sulfite	1469
iron(III) sulfate	1300	lead(II) chloride	1137	maleic acid	1470
isobutyl methyl ketone	1488	lead(II) hydrogenarsenate	1134	malic acid	1093
isobutyltrimethylmethane	1377	lead(II) nitrate	1138	malonic acid	1478
isooctane	1377	lead(II) sulfate	1139	manganese dioxide	1472
isooctanol	1316	light oil	1448	manganese(II) chloride	1471
isopropanol	1378	light petrol	1447	manganese(II) sulfate	1473
Isopropyl alcohol	1378	lighting gas, benzene-free	1451	manganese(IV) oxide	1472
isopropylbenzene	1242	lignoceryl alcohol	1698	marmelade	1474
isopropyl ether	1278	lime	1175	mercaptoacetic acid	1676
Isopropylmethylbenzene (o-, m- a. p-)	1252	lime milk	1182	mercury	1612
isovalerone	1277	linoleic acid	1453	mercury(II) chloride	1614
kerosene	1586	linseed oil	1450	mercury(II) cyanide	1615
lactic acid	1493	liqueurs	1452	mercury(II) nitrate	1616

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methacrylic acid methyl ester	1489	methyl isobutyl ketone (MIBK)	1488	monobutyl phthalate	1600
methanal	1340	methyl methacrylate	1489	monochloroacetic acid	1211
methane	1477	4-methyl-2-pentanone	1488	monochloroacetic acid ethyl ester	1501
methanedicarboxylic acid	1478	methylphenol (o-, m-, a. p-)	1427	monochloroacetic acid methyl ester	1502
methanesulfonic acid	1480	methyl phenyl ether	1087	monochloroacetone	1205
methanoic acid	1047	methyl phenyl ketone	1021	monochlorobenzene	1208
methanol	1479	(S)-(-)-1-methyl-2-(3-pyridyl)pyrrolidine	1554	monopentyl phthalate	1599
4-methoxybenzaldehyde	1086	methylsulfuric acid	1480	morpholine	1505
methoxybenzene	1087	milk	1492	murcury(II) sulfate	1613
2-methoxyethanol	2260	milk sugar	1439	naphthalene	1507
methyl acetate	1481	mineral oils	1494	naphthalene sulfonic acid (mixture of isomers)	1508
methyl Cellosolve	2260	mineral water	1704	natural gas	1308
methyl chloride	1484	mixed acid: H <sub>2</sub> SO <sub>4</sub> 18%, HNO <sub>3</sub> 15%, HF 5%	1499	niacin	1555
methyl formate	1487	mixed acid: H <sub>2</sub> SO <sub>4</sub> 25%, HNO <sub>3</sub> 25%, HF 10%	1506	nickel(II) chloride	1548
methyl salicylate	1490	mixed acid: H <sub>2</sub> SO <sub>4</sub> 50%, HNO <sub>3</sub> 33%	1497	nickel(II) nitrate	1549
methylacetic acid	1608	mixed acid: H <sub>2</sub> SO <sub>4</sub> 50%, HNO <sub>3</sub> 50%	1498	nickel(II) sulfate	1550
methyl alcohol	1479	mixed acid: HCl 27%, HNO <sub>3</sub> 18%	1425	nickel(II) sulfide	1551
methylamine	1482	mixed acid: HNO <sub>3</sub> 12%, HF 5%	1723	nickel(II) sulfite	1552
methylbenzene	1679	mixed acid: HNO <sub>3</sub> 20%, H <sub>2</sub> SO <sub>4</sub> 10%	1495	nickel(II) tartrate	1553
4-methylbenzenesulfonic acid	1582	mixed acid: HNO <sub>3</sub> 20%, HF 5%	1724	(S)-(-)-nicotine	1554
methylbromide	1483	mixed acid: HNO <sub>3</sub> 50%, HF 10%	1500	nicotinic acid	1555
4-(2-methyl-2-butyl)phenol	1082	mixed acid: HNO <sub>3</sub> 59%, HF 4,5%	1503	nitric acid	1621
methyl chloroacetate	1502	mixed acid: HNO <sub>3</sub> 87%, H <sub>2</sub> SO <sub>4</sub> 10%	1496	2,2',2''-nitrilotriethanol	1687
methyl cyanide	1020	molasses	1476	nitrobenzene	1556
methylcyclohexane	1485	Monoamyl phthalate	1599	nitrobenzoic acid (o-, m- a. p-)	1557
methylene chloride	1266			nitrogen	1659
methyl ethyl ketone (MEK)	1328				



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nitroglycol	1559	oxygen	1625	4-phenylazoaniline	1048
nitrophenol (o-, m- a. p-)	1560	ozone	1576	phenylethane	1319
nitrotoluene (o-, m- a. p-)	1562	PABA	1049	phenyl ether	1289
nitrotrichloromethane	1686	PAC	1603	phenylethylene	1656
nitrous acid	1622	palm kernel oil	1579	phenylformic acid	1116
nitrous gases	1007	palm seed oil	1579	phenylhydrazine	1590
cis,cis-9,12-octadecadienoic acid	1453	palmitic acid	1578	2-phenylpropane	1242
octadecanoic acid	1652	paraffin oil	1694	phenylsulfonic acid	1120
octadecanoic acid butyl ester	1653	2,4-pentanedione	1022	phosgene	1591
cis-9-octadecenoic acid	1573	pentanol (mixture of isomers)	1583	phosphane	1594
n-octane	1566	1-pentanol	1079	phosphine	1594
octyloxytoluene (o-, m-, a. p-)	1567	2-pentanol	1745	phosphoric acid	1574
octyl tolyl ether (o-, m-, a. p-)	1567	3-pentanone	1275	phosphoric acid butyl ester	1165
oil (vegetable + animal)	1569	1-pentyl acetate	1078	phosphoric acid tributyl ester	1681
oil of turpentine	1668	1-pentyl chloride	1080	phosphoric acid trichloride	1597
oleic acid	1573	perchloric acid	1585	phosphoric acid trioctyl ester	1690
oleum	1570	perchloroethane	1584	phosphoroxy chloride	1597
oleum vapours	1571	perchloroethylene	1671	phosphorus pentoxide	1596
olive oil	1572	peroxomonosulfuric acid	1200	phosphorus trichloride	1595
orthophosphoric acid	1574	peroxosulfuric acid	1200	phosphorus(III) chloride	1595
orthosilicic acid	1421	petrol-benzene mixture	1115	phosphorus(V) oxide	1596
oxalic acid	1575	petroleum	1309	phosphoryl chloride	1597
oxalic acid calcium salt	1185	petroleum ether	1447	phthalic acid	1598
oxalic acid diammonium salt	1071	phenol	1588	phthalic acid dibutyl ester	1261
oxalic acid iron salts	1303	N-phenylacetamide	1017	phthalic acid dimethyl ester	1284
oxirane	1326	phenylamine	1083	phthalic acid monobutyl ester	1600
oxolane	1674	N-phenylaniline	1288	phthalic acid monopentyl ester	1599

## List of Media

Release Date: 2017-03-22

picric acid	1601	potassium ferricyanide	1330	propanedioic acid	1478
pivaloyl chloride	2218	potassium ferrocyanide	1329	1,2-propanediol	1609
polyaluminium chloride	1603	potassium fluoride	1402	propanetriol	1360
polydimethylsiloxane	1643	potassium hexacyanoferrate(II)	1329	propanoic acid	1608
polyethylene glycol	1604	potassium hexacyanoferrate(III)	1330	1-propanol	1606
polyglycol, PEG	1604	potassium hydrogencarbonate	1387	2-propanol	1378
potash	1395	potassium hydrogensulfate	1389	propanone	1018
potash lye	1384	potassium hydrogensulfite	1390	propargyl alcohol	1607
potassium acetate	1386	potassium hydrogen-L-tartrate	1391	propene oxide	1610
potassium alum	1030	potassium hydroxide	1384	2-propenoic acid ethyl ester	1318
potassium aluminium sulfate	1030	potassium hypochlorite	1403	propenol	1032
potassium bicarbonate	1387	potassium iodate	1404	2-propin-1-ol	1607
potassium bisulfate	1389	potassium iodide	1405	propionic acid	1608
potassium bisulfite	1390	potassium manganate(VII)	1409	propyl alcohol	1606
potassium borate	1392	potassium metaborate	1406	propylene oxide	1610
potassium bromate	1393	potassium nitrate	1385	propylene chloride	1267
potassium bromide	1394	potassium nitrite	1407	propylene glycol	1609
potassium carbonate	1395	potassium perchlorate	1408	prussiate, red	1330
potassium chlorate	1396	potassium permanganate	1409	prussiate, yellow	1329
potassium chloride	1397	potassium peroxodisulfate	1410	pure water	1705
potassium chlorite	1398	potassium persulfate	1410	pyridine	1611
potassium chromate	1399	potassium polyiodide solution	1381	pyridine-3-carboxylic acid	1555
potassium chromium(III) sulfate	1226	potassium sulfate	1412	quinine	1201
potassium cyanate	1400	potassium sulfide	1413	quinol	1373
potassium cyanide	1401	potassium sulfite	1414	quinoline	1202
potassium dichromate	1388	potassium L-tartrate	1415	roasting gases, dry	1619
potassium dihydrogenphosphate	1411	propane	1605	salicylic acid	1620

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salicylic acid methyl ester	1490	sodium carbonate	1522	sodium peroxide	1539
Schweinfurter Green	1431	sodium chlorate	1524	sodium peroxoborate	1519
seawater	1703	sodium chloride	1525	sodium peroxodisulfate	1540
silicic acid	1421	sodium chlorite	1526	sodium persulfate	1540
silicone oil	1643	sodium chromate	1527	sodium phosphate	1541
silver acetate	1638	sodium citrate	1528	sodium phosphinate	1533
silver chloride	1639	sodium cyanide	1529	sodium silicate	1542
silver cyanide	1640	sodium dichromate	1514	sodium sulfate	1543
silver nitrate	1641	sodium fluoride	1530	sodium sulfide	1544
silver sulfate	1642	sodium fluorosilicate	1420	sodium sulfite	1545
slaked lime	1182	sodium formate	1531	sodium tetraborate	1546
soap	1627	sodium hexafluorosilicate	1420	sodium thiosulfate	1089
soap hydrous solution	1637	sodium hydrogencarbonate	1513	soft soap	1627
soda	1522	sodium hydrogenphosphate	1285	sperm oil	1644
soda lye	1547	sodium hydrogensulfate	1515	spin bath acid with carbondisulfide	1646
soda water glass	1542	sodium hydrogensulfide	1517	starch	1649
sodium acetate	1509	sodium hydrogensulfite	1518	starch gum	1258
sodium aluminate	1510	sodium hydroxide	1547	starch sirup	1650
sodium arsenate	1511	sodium hypochlorite	1209	stearic acid	1652
sodium arsenite	1512	sodium hypophosphite	1533	stearic acid butyl ester	1653
sodium benzoate	1119	sodium iodide	1534	strontium chloride	1655
sodium bicarbonate	1513	sodium lactate	1535	styrene	1656
sodium bisulfate	1515	sodium metasilicate	1542	succinic acid	1125
sodium bisulfide	1517	sodium nitrate	1536	sugar sirup	1722
sodium bisulfite	1518	sodium nitrite	1537	sulfamic acid	1657
sodium bromate	1520	sodium perborate	1519	sulfamic acid ammonium salt	1075
sodium bromide	1521	sodium perchlorate	1538	sulfanilic acid	1050

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Release Date: 2017-03-22

sulfur	1628	tetrabromomethane	1669	trichloroacetaldehyde hydrate	1206
sulfur dioxide, aqueous solution	1636	1,1,2,2-tetrachloro-1,2-difluoroethane	1343	trichloroacetic acid	1684
sulfur dioxide, gaseous	1629	1,1,2,2-tetrachloroethane	1670	trichlorobenzene (mixture of isomers)	1683
sulfur trioxide	1634	tetrachloroethene	1671	trichloroborane	1143
sulfuric acid	1632	tetrachloroethylene	1671	trichloroethene	1685
sulfuric acid anhydride	1634	tetrachloromethane	1672	trichloroethylene	1685
sulfuric acid dimethyl ester	1491	1-tetracosanol	1698	trichlorofluoromethane	1342
sulfurous acid	1636	tetraethyllead	1673	trichloromethane	1217
sulfurous acid dichloride	1677	tetrafluoroboric acid	1337	trichloronitromethane	1686
SurTec 104 universal cleaner	1658	1,2,3,4-tetrahydrobenzene	1249	1,2,2-trichloro-1,1,2-trifluoroethane	1344
table salt	1525	tetrahydrofuran	1674	triethanolamine	1687
Tanigan® extra A	1660	1,2,3,4-tetrahydronaphthalene	1675	triethylene glycol	1688
Tanigan® extra B	1661	tetrahydro-1,4-oxazine	1505	trifluoroborane	1144
Tanigan® extra D	1662	Tetralin®	1675	trifluorovinyl chloride	1222
Tanigan® F	1663	tetramethylene glycol	1153	triglyceride	1333
Tanigan® U	1664	THF	1674	triglycol	1688
tannic acid	1665	thioglycolic acid	1676	1,2,6-trihydroxyhexane	1366
tannin	1665	thionyl chloride	1677	2,6,8-trihydroxypurine	1362
tartar	1391	thiophene	1678	trimethylacetyl chloride	2218
L-tartaric acid dipotassium salt	1415	tin(II) chloride	1721	trimethyl borate	1689
L(+)-tartaric acid	1713	Titriplex® II	1323	2,2,4-trimethylpentane	1377
L(+)-tartaric acid monopotassium salt	1391	toluene	1679	2,4,6-trinitrophenol	1601
L(+)-tartaric acid nickel salt	1553	p-toluenesulfonic acid	1582	trioctyl phosphate	1690
tartaric acid, naturally	1713	triammonium citrate	1061	trioxygen	1576
TBP	1681	tribromomethane	1149	trisodium citrate	1528
TCE	1670	tributyl phosphate	1681	trisodium phosphate	1541
TEL	1673	trichloroacetaldehyde	1682	turpentine	1666

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turpentine substitute	1667
urea	1363
uric acid	1362
urine	1692
vaseline	1693
vaseline oil	1694
vinyl acetate	1695
vinylbenzene	1656
vinyl chloride	1696
vinyl cyanide	1027
vinylidene dichloride	1265
viscose spinning solutions	1697
vitamin C	1098
waste gas with carbon dioxide	1006
waste gas with carbon monoxide	1005
waste gas with hydrogen cyanide	1003
waste gas with hydrogen fluoride	1004
waste gas with nitrous gases	1007
waste gas with sulfur dioxide	1010
waste gas with sulfur trioxide	1012
water, condensed	1702
water, mineral water	1704
water, pure	1705
water, seawater	1703
water, traces of butanol and phenol	1706
wax alcohol	1698
wine vinegar	1712

wine, red and white	1710
xylene (mixture of isomers)	1715
zinc carbonate basic	1716
zinc chloride	1717
zinc hydrogenphosphate	1719
zinc hydroxide carbonate	1716
zinc nitrate	1718
zinc sulfate	1720



## Chemical Resistance

Release Date: 2017-03-22

Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor	
1003 HCN CHN	waste gas with hydrogen cyanide	gf	GK	20	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
		gf	GK	40				+	+	+														
		gf	GK	60				+	+	+														
		gf	GK	80				+	+	+														
		gf	GK	100				+	+	+														
		gf	GK	120					+	+														
1004 HF	waste gas with hydrogen fluoride	gf	GK	20	+	+	+	-	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
		gf	GK	40	+	+	+		+	+	+	+	+	+	0	+	+	+	+	+	+	+	+	
		gf	GK	60	+	+	+		+	+	+	+	+	+		0	+	+	+	+	+	+	+	
		gf	GK	80					+	+	+							+	0					
		gf	GK	100					+	+	+													
		gf	GK	120					+	+	+													
1005 CO	waste gas with carbon monoxide	gf	HK	20	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
		gf	HK	40	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
		gf	HK	60	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
		gf	HK	80			+	+	+	+	+						+	+	+	+	+	+	+	
		gf	HK	100					+	+	+							+						
		gf	HK	120					+	+	+							+						
1006 CO2	waste gas with carbon dioxide	gf	HK	20	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
		gf	HK	40	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
		gf	HK	60	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
		gf	HK	80					+	+	+									+				
		gf	HK	100					+	+	+									+				
		gf	HK	120					+	+	+									+				

**Abbreviations:** fe = humid; fl = liquid; gf = gaseous; tr = dry; wä = aqueous solution

GK = low concentration; GL = cold saturated solution; H = usual in trade; HK = high concentration; TR = technically pure; VL = diluted solution

+ = resistant; 0 = conditionally resistant; - = non-resistant

# Chemical Resistance

Release Date: 2017-03-22

	Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor
<b>1007</b> waste gas with nitrous gases  nitrous gases  NOx	gf	GK	20	+	+	+	+	+	+	+		0		+		0	+	+	+	+				
	gf	GK	40	+	+	+	+	+	+	+				+		0	+	+	+	+				
	gf	GK	60	+	+	0	0	+	+	+				+			+	+	+	+				
	gf	GK	80					+	+	+							0	+	0	+				
	gf	GK	100					+	+	+								0		+				
	gf	GK	120					+	+	+										+				
	gf	HK	20	+	+	+	+	+	+	+		-					0	+	+	+				
	gf	HK	40	0	+	0	0	+	+	+							-	0	+	+				
	gf	HK	60	0	0	-	-	+	+	+								-	+	+				
	gf	HK	80					+	+	+											+			
	gf	HK	100					+	+	+											+			
	gf	HK	120					+	+	+											+			
<b>1010</b> waste gas with sulfur dioxide  SO2 O2S	gf	GK	20	+	+	+	+	+	+	+		+		+		0	+	+	+					
	gf	GK	40	+	+	+	+	+	+	+		+		+		-	+	+	+					
	gf	GK	60	+	+	+	+	+	+	+		0		+			+	+	+					
	gf	GK	80			+	+	+	+	+				+			+	+	+					
	gf	GK	100					+	+	+				0				+						
	gf	GK	120					+	+					-										
<b>1012</b> waste gas with sulfur trioxide  SO3 O3S	gf	GK	20	+	+	+	+	+	+	+						0	+	+	+					
	gf	GK	40	+	+	+	+	+	+	+						-	+	+	+					
	gf	GK	60	+	+	0	0	+	+	+							+	+	+					
	gf	GK	80			0	0	+	+	+							0	+						
	gf	GK	100					+	+	+														
	gf	GK	120					+	+															

**Abbreviations:** fe = humid; fl = liquid; gf = gaseous; tr = dry; wä = aqueous solution  
 GK = low concentration; GL = cold saturated solution; H = usual in trade; HK = high concentration; TR = technically pure; VL = diluted solution  
 + = resistant; 0 = conditionally resistant; - = non-resistant



## Chemical Resistance

Release Date: 2017-03-22

Condition	Concentration	Temperature [°C]	Material																						
			PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSIC	Carbon	Al2O3	Al2O3 Sensor		
<b>1014</b> ethanal CH3CHO C2H4O	acetaldehyde	wä 10%	20	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
		wä 10%	40	0	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
		wä 10%	60			+	+	+	+	+	+	+	+	+	+	+	0	+	+	+	+	+	+	+	+
		wä 10%	80			+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
		wä 40%	20	0	+	+	+	+	+	+	+	+	+	+	+	0	+	+	+	+	+	+	+	+	+
		wä 40%	40	0	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
		wä 40%	60	-		+	+	+	+	+	+	+	+	+	+	+	0	+	+	+	+	+	+	+	+
	TR	20	-	+	0	0	-	+	+	-	+	+	+	-	-	-	0	+	+	+	+	+	+		
<b>1015</b> acetic acid amide CH3CONH2 C2H5NO	acetamide	wä GL	20		+	+	+		+	+					0	-	+	-	+			+	+		
		wä GL	40		+	+	+		+	+					-		+		+			+	+		
		wä GL	60		+	+	+		+	+							+		+			+	+		
		wä GL	80						+	+									+						
		wä GL	100						+	+									+						
<b>1016</b> ethanoic anhydride (CH3CO)2O C4H6O3	acetic anhydride	TR	20	-	+	+	+	-	+	+		-	0	+	+	-	+	-	+	+	+	+	+	+	
		TR	40		0	0	0		+	+				+	+				+	+	+	+	+	+	
		TR	60		-	-	-		+	+				+	+					+	+	+	+	+	
		TR	80						+	+				+	+						+	+	+	+	
		TR	100						+	+											+	+	+	+	
		TR	120						+	+											+	+	+	+	
<b>1017</b> N-phenylacetamide acetic acid anilide CH3CONHC6H5 C8H9NO	acetanilide	wä GL	20	+					+	+					0	-	0	-		+	+	+	+		
		wä GL	40	+					+	+							0			+	+	+	+		
		wä GL	60						+	+							0			+	+	+	+		
		wä GL	80						+	+							0			+	+	+	+		
		wä GL	100						+	+										+	+	+	+		

**Abbreviations:** fe = humid; fl = liquid; gf = gaseous; tr = dry; wä = aqueous solution

GK = low concentration; GL = cold saturated solution; H = usual in trade; HK = high concentration; TR = technically pure; VL = diluted solution

+ = resistant; 0 = conditionally resistant; - = non-resistant





## Chemical Resistance

Release Date: 2017-03-22

	Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor	
<b>1018</b> acetone	wä	1%	20	-	+	+	+	+	+	+		+	+	+	+	-	+	-	0	+	+	+	+	+	
	wä	1%	40		+	+	+	+	+	+		+	+	+	+		+		0	+	+	+	+	+	
	wä	1%	60		+	+	+	+	+	+			+	+	+		+		0	+	+	+	+	+	
	wä	1%	80						+	+			+	+	+						+	+			
	wä	1%	100						+	+			+	+	+						+	+			
	wä	10%	20	-	+	+	+	+	+	+	-		+	+	+	-	+	-	0	+	+	+	+	+	+
	wä	10%	40		+	+	+	+	+	+			+	+	+		+		0	+	+	+	+	+	+
	wä	10%	60		+	+	+	0	+	+			+	+	+		+		0	+	+	+	+	+	+
	wä	10%	80						+	+			+	+	+		+				+	+			
	wä	10%	100						+	+											+	+			
		TR		20	-	+	+	+	-	+	+	-	-	+	+	+	-	+	-	0	+	+	+	+	+
		TR		40		+	+	+		+	+			+	+	+		0		0	+	+	+	+	+
		TR		60		+	+	+		+	+			+	+	+				0	+	+	+	+	+
<b>1020</b> acetonitrile		TR	20	-	+	+	+	+	+	+	-	+	+	+	0	-	0	-	+	+	+	+	+	+	
		TR	40	-	+	+	+	+	+	+	-	+	+	+	0		0			+	+		+	+	
		TR	60	-	+	+	+	0	+	+			+	+	+	0		0			+				
		TR	80						+	+			+	+	+							+			
<b>1021</b> acetophenone		TR	20	-	+	+	+	-	+	+	-		+	+	+					+	+		+	+	
		TR	40			+	+		+	+			+	+	+						+	+		+	+
		TR	60			0	0		+	+			+	+	+						+	+		+	+
		TR	80			-	-		+	+			+	+	+							+		+	+
		TR	100						+	+			+	+	+							+			
		TR	120						+	+			+	+	+										

**Abbreviations:** fe = humid; fl = liquid; gf = gaseous; tr = dry; wä = aqueous solution

GK = low concentration; GL = cold saturated solution; H = usual in trade; HK = high concentration; TR = technically pure; VL = diluted solution

+ = resistant; 0 = conditionally resistant; - = non-resistant



## Chemical Resistance

Release Date: 2017-03-22

Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1.4301	V4A 1.4571	Hast-C 2.4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor
<b>1022</b> acetylacetone 2,4-pentanedione CH3COCH2COCH3 C5H8O2	TR	20	-					+	+	-													
	TR	40	-					+	+														
	TR	60	-					+	+														
	TR	80						+	+														
	TR	100						+	+														
<b>1023</b> acetyl chloride ethanoic chloride CH3COCl C2H3ClO	TR	20					-	+	+						-	-	-	-		+		+	+
	TR	40						+	+											+		+	+
	TR	60						+	+											+		+	+
<b>1024</b> acetylene ethyne HCCH C2H2	gf	HK	20	+	+	+	+		+	+		+	+	+	+	+	+	+	+	+	+		
	gf	HK	40						+	+		+	+	+	+	+	+	+	+	+	+		
	gf	HK	60						+	+		+	+	+	+	+	+	+	+	+	+		
	gf	HK	80						+	+													
	gf	HK	100						+	+													
<b>1025</b> acetylsalicylic acid O-acetylsalicylic acid 2-acetyloxybenzoic acid 2-(CH3CO2)C6H4CO2H C9H8O4	wä	GL	20	+	+	+	+		+	+		+	+	+				+	+	+	+	+	+
	wä	GL	40		+	+	+		+	+		+	+	+					+	+	+	+	+
	wä	GL	60		+	+	+		+	+		+	+	+					+	+	+	+	+
	wä	GL	80						+	+					+					+	+	+	+
	wä	GL	100						+	+					+						+		
<b>1027</b> acrylonitrile vinyl cyanide CH2=CHCN C3H3N	TR	20	-	+	+	+	0	+	+	0		+	+	+	-	+	0	0	+	+	+	+	+
	TR	40	-	+	0	0	-	+	+	0		+	+	+	-	+	0	0	+	+	+	+	+
	TR	60	-	+				+	+			+	+	+	-	0	-	-		+		+	+
	TR	80						+	+					+	-								
	TR	100						+	+						-								

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GK = low concentration; GL = cold saturated solution; H = usual in trade; HK = high concentration; TR = technically pure; VL = diluted solution

+ = resistant; 0 = conditionally resistant; - = non-resistant



## Chemical Resistance

Release Date: 2017-03-22

Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSIC	Carbon	Al2O3	Al2O3 Sensor
<b>1028</b> acrylic acid butyl ester butyl acrylate  CH <sub>2</sub> =CHCO <sub>2</sub> (CH <sub>2</sub> ) <sub>3</sub> CH <sub>3</sub> C <sub>7</sub> H <sub>12</sub> O <sub>2</sub>	TR	20	-	+	+	+	+	+	+			+	+	+	-	0	-	+	+	+	+	+	+
	TR	40		0	0	0		+	+			+	+	+					+	+	+	+	+
	TR	60						+	+			+	+	+						+	+	+	+
	TR	80						+	+			+	+	+						+	+	+	+
	TR	100						+	+			+	+	+						+	+	+	+
<b>1029</b> adipic acid butane-1,4-dicarboxylic acid hexanedioic acid HO <sub>2</sub> C(CH <sub>2</sub> ) <sub>4</sub> CO <sub>2</sub> H C <sub>6</sub> H <sub>10</sub> O <sub>4</sub>	wä	GL	20	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
	wä	GL	40	+	+	+	+		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
	wä	GL	60	0	+	+	+		+	+		+	+	+	+	+	+	+	+	+	+	+	+
	wä	GL	80			+	+		+	+					+					+	+		+
	wä	GL	100						+	+					+						+		+
<b>1030</b> alum potassium aluminium sulfate potassium alum KAl(SO <sub>4</sub> ) <sub>2</sub> AlKO <sub>8</sub> S <sub>2</sub>	wä	10%	20	+	+	+	+	+	+	+	+			+	+	+	+	+	+	+	+	+	+
	wä	10%	40	+	+	+	+	+	+	+	+			+	0	+	+	+	+	+	+	+	+
	wä	10%	60	+	+	+	+	+	+	+					+	-	+	+	+	+	+	+	+
	wä	10%	80					+	+	+					+		+	+	+	+	+	+	+
	wä	10%	100					+	+	+						+	+	+	+	+	+	+	+
	wä	GL	20	+	+	+	+	+	+	+	+				+	0	+	+	+	+	+	+	+
	wä	GL	40	+	+	+	+	+	+	+	+				+	0	+	+	+	+	+	+	+
	wä	GL	60	+	+	+	+	+	+	+					+	-	+	+	+	+	+	+	+
	wä	GL	80					+	+	+					+		+	+	+	+	+	+	+
	wä	GL	100					+	+	+						+	+	+	+	+	+	+	+
<b>1031</b> alkanesulfonic acids (mixtures)  RSO <sub>3</sub> H	wä	10%	20	+				+	+					+	+	+	+	+	+	+	+	+	+
	wä	10%	40	+				+	+					+					+	+	+	+	+
	wä	10%	60	+				+	+					+					+	+		+	+
	wä	10%	80					+	+					+					+	+		+	+
	wä	10%	100					+	+					+					+	+		+	+

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## Chemical Resistance

Release Date: 2017-03-22

Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor
			0	+	+	+	+	+	+	+	+	0	+	+	+	+	0	0	+	+	+	+	+
<b>1032</b> allyl alcohol propenol 3-hydroxypropene CH <sub>2</sub> =CHCH <sub>2</sub> OH C <sub>3</sub> H <sub>6</sub> O	TR	20	0	+	+	+	+	+	+	-	0	+	+	+	+	0	0	+	+	+	+	+	+
	TR	40	-	+	+	+	+	+	+	-	0	+	+	+	+	0	-	+	+	+	+	+	+
	TR	60		+	+	+	+	+	+			+	+	+		0		+	+	+	+	+	+
	TR	80							+	+			+	+							+		+
	TR	100							+	+			+	+									+
<b>1033</b> allyl chloride 3-chloropropene  CH <sub>2</sub> =CHCH <sub>2</sub> Cl C <sub>3</sub> H <sub>5</sub> Cl	TR	20	-	0			+	+	+			+	+	+						+	+	+	+
	TR	40	-	-			+	+	+			+	+	+						+		+	+
<b>1034</b> aluminium acetate basic hydroxyaluminium diacetate  (CH <sub>3</sub> CO <sub>2</sub> ) <sub>2</sub> AlOH C <sub>4</sub> H <sub>7</sub> AlO <sub>5</sub>	wä	GL	20	+	+	+	+	+	+					+					+	+	+	+	+
	wä	GL	40	+	+	+	+	+	+					+					+	+	+	+	+
	wä	GL	60					+	+	+				+					+	+	+	+	+
	wä	GL	80					+	+	+				+									
	wä	GL	100					+	+	+													
<b>1035</b> aluminium ammonium sulfate ammonium aluminium sulfate ammonium alum AlNH <sub>4</sub> (SO <sub>4</sub> ) <sub>2</sub> H <sub>4</sub> AlNO <sub>8</sub> S <sub>2</sub>	wä	GL	20	+	+	+	+	+	+					+					+	+	+	+	+
	wä	GL	40	+	+	+	+	+	+					+					+	+	+	+	+
	wä	GL	60		+	+	+	+	+					+					+	+	+	+	+
	wä	GL	80					+	+	+				+					+	+	+	+	+
	wä	GL	100					+	+										+	+	+		
<b>1036</b> aluminium chlorate  Al(ClO <sub>3</sub> ) <sub>3</sub> AlCl <sub>3</sub> O <sub>9</sub>	wä	GL	20	+				+	+	+				+						+	+	+	+
	wä	GL	40					+	+	+				+							+	+	+
	wä	GL	60					+	+	+											+		+
	wä	GL	80					+	+	+											+		
	wä	GL	100					+	+												+		

**Abbreviations:** fe = humid; fl = liquid; gf = gaseous; tr = dry; wä = aqueous solution

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## Chemical Resistance

Release Date: 2017-03-22

	Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor		
1037	wä	aluminium chloride	10%	20	+	+	+	+	+	+	+	+	-	0	+	+	+	+	+	+	+	+	+	+	+	
			10%	40	+	+	+	+	+	+	+	+	+		-	+	+	+	+	+	+	+	+	+	+	+
			10%	60	+	+	+	+	+	+	+	0	0				+	0	+	+	+	+	+	+	+	+
			10%	80			+	+	+	+	+						+		+	+	+	+	+		+	+
			10%	100					+	+	+						+			+	+	+	+		+	
			GL	20	+	+	+	+	+	+	+			+	-	-	+		+	+	+	+	+	+	+	+
			GL	40	+	+	+	+	+	+	+			+			+		+	+	+	+	+	+	+	+
			GL	60	+	+	+	+	+	+	+						+		+	+	+	+	+	+	+	+
			GL	80			+	+	+	+	+						+		+	+	+	+	+	+	+	+
			GL	100			0	0	+	+	+						+			+	+	+	+	+	+	+
1039	wä	aluminium iron(II) sulfate	GL	20	+	+	+	+	+	+						+	+	+		+	+	+	+	+	+	
			GL	40	+	+	+	+	+	+						+		+		+	+	+	+	+	+	
			GL	60		+	+	+	+	+							+				+	+	+	+	+	+
			GL	80					+	+	+						+				+	+	+	+	+	+
			GL	100						+	+						+				+	+	+	+	+	+
1040	wä	aluminium fluoride	GL	20	+	+	+	+	+	+							+	+	+	+	+	+	+	+	+	
			GL	40	+	+	+	+	+	+							+	+	+	+	+	+	+	+	+	
			GL	60		+	+	+	+	+							0	+	+	+	+	+	+	+	+	+
			GL	80					+	+	+							-	+	+	+	+	+	+	+	+
			GL	100					+	+	+							+	+		+	+	+	+	+	+
1041	TR	aluminium fluorosilicate	20	+	+	+	+	+	+																	
			40						+	+																
			60						+	+																
			80						+	+																
			100						+	+																

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## Chemical Resistance

Release Date: 2017-03-22

Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1.4301	V4A 1.4571	Hast-C 2.4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor
			1042	aluminium hydroxide	TR	20	+	+	+	+	+	+											
		TR	40		+	+	+	+	+														
		TR	60		+	+	+	+	+														
Al(OH) <sub>3</sub>		TR	80					+	+	+													
H <sub>3</sub> AlO <sub>3</sub>		TR	100					+	+	+													
1043	aluminium nitrate	wä	GL	20	+	+	+	+	+					+		+	+		+	+	+	+	+
		wä	GL	40	+	+	+	+	+					+		+	+		+	+	+	+	+
		wä	GL	60		+	+	+	+					+					+	+	+	+	+
Al(NO <sub>3</sub> ) <sub>3</sub>		wä	GL	80				+	+	+				+					+	+	+	+	+
AlN <sub>3</sub> O <sub>9</sub>		wä	GL	100				+	+	+				+					+	+	+	+	+
1044	aluminium oxide		TR	20	+	+	+	+	+														
alumina		TR	40					+	+	+													
		TR	60					+	+	+													
Al <sub>2</sub> O <sub>3</sub>		TR	80					+	+	+													
		TR	100					+	+	+													
1045	aluminium sulfate	wä	10%	20	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
		wä	10%	40	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
		wä	10%	60	0	+	+	+	+	+		+	0	+	+	+	+	+	+	+	+	+	+
Al <sub>2</sub> (SO <sub>4</sub> ) <sub>3</sub>		wä	10%	80			+	+	+	+		0	+	+			+	0	+	+	+	+	+
Al <sub>2</sub> O <sub>12</sub> S <sub>3</sub>		wä	10%	100				+	+	+		0	+	+					+	+	+	+	+
		wä	GL	20	+	+	+	+	+	+		+	0	+	+	+	+	+	+	+	+	+	+
		wä	GL	40	+	+	+	+	+	+		+	0	+	+	+	+	+	+	+	+	+	+
		wä	GL	60	0	+	+	+	+	+		+	-	0	+	+	+	+	0	+	+	+	+
		wä	GL	80			+	+	+	+			0	+			+	0	+	+	+	+	+
		wä	GL	100				+	+	+			0	+					+	+	+	+	+

**Abbreviations:** fe = humid; fl = liquid; gf = gaseous; tr = dry; wä = aqueous solution

GK = low concentration; GL = cold saturated solution; H = usual in trade; HK = high concentration; TR = technically pure; VL = diluted solution

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## Chemical Resistance

Release Date: 2017-03-22

**1046 ammonium iron(II) sulfate**

(NH<sub>4</sub>)<sub>2</sub>Fe(SO<sub>4</sub>)<sub>2</sub>  
H<sub>8</sub>FeN<sub>2</sub>O<sub>8</sub>S<sub>2</sub>

Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSIC	Carbon	Al2O3	Al2O3 Sensor
wä	10%	20	+	+	+	+	+	+	+	+	+			+	+	+	+	+	+	+	+	+	+
wä	10%	40	+	+	+	+	+	+	+	+	+			+	+	+	+	+	+	+	+	+	+
wä	10%	60	0	+	+	+	+	+	+					+		+	+	+	+	+	+	+	+
wä	10%	80			+	+	+	+	+					+		+	+		+	+		+	+
wä	10%	100					+	+	+					+					+	+		+	+
wä	GL	20	+	+	+	+	+	+	+	+	+			+	+	+	+	+	+	+	+	+	+
wä	GL	40	+	+	+	+	+	+	+	+	+			+	+	+	+	+	+	+	+	+	+
wä	GL	60	0	+	+	+	+	+	+					+		+	+	+	+	+	+	+	+
wä	GL	80			+	+	+	+	+					+		+	+		+	+		+	+
wä	GL	100					+	+	+					+					+	+		+	+

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## Chemical Resistance

Release Date: 2017-03-22

Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor			
1047 methanoic acid  HCO2H CH2O2	formic acid	wä 10%	20	+	+	+	+	+	+	-	+	+	+	+	-	+	+	+	+	+	+	+	+			
		wä 10%	40	+	+	+	+	+	+	+		+	+	+	+			-	-		+	+	+	+		
		wä 10%	60	0	+	+	+	+	+	+			0	+	+							+	+	+	+	
		wä 10%	80			+	+	+	+	+			-	0	+							+	+	+	+	
		wä 10%	100					+	+	+				0	+							+	+	+	+	
		wä 25%	20	+	+	+	+	+	+	+	-		+	+	+	-						+	+	+	+	
		wä 25%	40	+	+	+	+	+	+	+			0	+	+		0	-				+	+	+	+	
		wä 25%	60	0	+			+	+	+			-	0	+							+	+	+	+	
		wä 25%	80					+	+	+				0	+							+	+	+	+	
		wä 25%	100					+	+	+				0	+							+	+	+	+	
		wä 50%	20	+	+	+	+	+	+	+	-		+	+	+	-			+			+	+	+	+	
		wä 50%	40	+	+	+	+	+	+	+		0	0	+	+			-	-			+	+	+	+	
		wä 50%	60	0	+	0	0	+	+	+			-	0	+				-			+	+	+	+	
		wä 50%	80					+	+	+				0	+							+	+	+	+	
		wä 50%	100					+	+	+				0	+							+	+	+	+	
		wä 85%	20	+	+	+	+	+	+	+	-		+	+	+	-			+			+	+	+	+	
		wä 85%	40	0	+	0	0	+	+	+			0	+	+			-	+			+	+	+	+	
		wä 85%	60	-	+	0	0	+	+	+			-	0	+				+			+	+	+	+	
		wä 85%	80					+	+	+				0	+				0			+	+	+	+	
		wä 85%	100					+	+	+				0	+				0			+	+	+	+	
			TR	20	+	+	-	-	+	+	+	-	0	+	+	+	-		-	+			+	+	+	+
			TR	40	0	+			+	+	+		0	0	+	+			-	+			+	+	+	+
			TR	60	-	+			0	+	+		0	-	0	+				+			+	+	+	+
			TR	80					+	+					0	+			0				+	+	+	+
			TR	100					+	+					0								+	+	+	+

**Abbreviations:** fe = humid; fl = liquid; gf = gaseous; tr = dry; wä = aqueous solution

GK = low concentration; GL = cold saturated solution; H = usual in trade; HK = high concentration; TR = technically pure; VL = diluted solution

+ = resistant; 0 = conditionally resistant; - = non-resistant





## Chemical Resistance

Release Date: 2017-03-22

Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1.4301	V4A 1.4571	Hast-C 2.4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor	
<b>1048</b> 4-phenylazoaniline  C6H5N=NC6H4NH2 C12H11N3	p-aminoazobenzene	TR	20	+					+	+														
		TR	40	0					+	+														
		TR	60						+	+														
		TR	80						+	+														
		TR	100						+	+														
<b>1049</b> PABA  4-(NH2)C6H4CO2H C7H7NO2	4-aminobenzoic acid	wä	GL	20	+	+	+	+	+	+				+					+	+	+	+	+	
		wä	GL	40		+	+	+	+	+				+					+	+	+	+	+	
		wä	GL	60		+	+	+	+	+				+					+	+	+	+	+	
		wä	GL	80					+	+				+					+	+	+	+	+	
		wä	GL	100					+	+				+					+	+	+	+	+	
<b>1050</b> sulfanilic acid aniline-4-sulfonic acid 4-(NH2)C6H4SO3H C6H7NO3S	4-aminobenzenesulfonic acid	wä	GL	20	+	+	+	+	+	+				+					+	+	+	+	+	
		wä	GL	40		+	+	+	+	+				+					+	+	+	+	+	
		wä	GL	60					+	+				+					+	+	+	+	+	
		wä	GL	80					+	+				+					+	+	+	+	+	
		wä	GL	100					+	+				+					+	+	+	+	+	
<b>1051</b> glycine  NH2CH2CO2H C2H5NO2	aminoacetic acid	wä	10%	20	+	+	+	+	+	+	-		+	+	+	+	+	+	+	+	+	+	+	
		wä	10%	40	+	+	+	+	+	+	-		+	0	+	+	0	+	+	+	+	+	+	
		wä	10%	60		+	+	+	+	+			+						+	+	+	+	+	
		wä	10%	80					+	+	+		+						+	+	+	+	+	
		wä	10%	100					+	+			+						+	+	+	+	+	
<b>1052</b> aminocarboxylic acids  NH2CH(R)CO2H	amino acids	wä	GL	20	+	+	+	+	+	+				+					+	+	+			
		wä	GL	40		+	+	+	+	+				+					+	+	+			
		wä	GL	60					+	+	+								+	+	+			
		wä	GL	80					+	+	+								+	+	+			
		wä	GL	100					+	+									+	+	+			

**Abbreviations:** fe = humid; fl = liquid; gf = gaseous; tr = dry; wä = aqueous solution

GL = low concentration; GL = cold saturated solution; H = usual in trade; HK = high concentration; TR = technically pure; VL = diluted solution

+ = resistant; 0 = conditionally resistant; - = non-resistant



## Chemical Resistance

Release Date: 2017-03-22

Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor	
1053	ammonia, gaseous	gf	HK	20	+	+	+	+	0	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
		gf	HK	40	+	+	+	+	0	+	+	+	+	+	+	0	+	0	+	+	+	+	+	+
		gf	HK	60	+	+	+	+	0	+	+	+	+	+	+	-	+	+	+	+	+	+	+	+
		gf	HK	80						+	+					+								
		gf	HK	100						+	+													
		gf	HK	120						+	+													
1054	ammonia, aqueous solution ammonium hydroxide	wä	10%	20	+	+	+	+	0	+	+	+	+	+	+	+	0	+	+	+	+	+	+	
		wä	10%	40	+	+	+	+	0	+	+	+	+	+	+	0	+			+	+	+	+	+
		wä	25%	20	+	+	+	+	-	+	+	+	+	+	+	+	+	-	+	+	+	+	+	+
		wä	25%	40	+	+	+	+		+	+	+	+	+	+	0	+			+	+	+	+	+
1055	ammonium metatungstate		TR	20	+	+	+	+	+	+														
			TR	40					+	+														
			TR	60					+	+														
			TR	80					+	+														
			TR	100					+	+														
			TR	120					+	+														
1056	ammonium acetate	wä	GL	20	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
		wä	GL	40	+	+	+	+	+	+	+	+	+	+	+	0	+	+	+	+	+	+	+	+
		wä	GL	60	0	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
		wä	GL	80			+	+	+	+	+	+	+	+	+	+	0			+	+	+	+	+
		wä	GL	100			+	+	+	+	+	+	+	+	+	+				+	+	+	+	+

**Abbreviations:** fe = humid; fl = liquid; gf = gaseous; tr = dry; wä = aqueous solution

GK = low concentration; GL = cold saturated solution; H = usual in trade; HK = high concentration; TR = technically pure; VL = diluted solution

+ = resistant; 0 = conditionally resistant; - = non-resistant



## Chemical Resistance

Release Date: 2017-03-22

Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor	
<b>1057</b>	<b>ammonium benzoate</b> benzoic acid ammonium salt C6H5CO2NH4 C7H9NO2	wä	GL	20		+	+							+					+	+	+	+	+	
		wä	GL	40		+	+	+							+					+	+	+	+	+
		wä	GL	60											+						+	+	+	+
		wä	GL	80											+						+	+	+	+
		wä	GL	100											+						+	+	+	+
<b>1058</b>	<b>ammonium bromide</b> NH4Br H4BrN	wä	GL	20	+	+	+	+	+	+				+	+	+	+	+	+	+	+	+	+	
		wä	GL	40	+	+	+	+	+	+					+	+	+	+	+	+	+	+	+	+
		wä	GL	60		+	+	+	+	+					+	+	+	+	+	+	+	+	+	+
		wä	GL	80					+	+					+	+	+	+	+	+	+	+	+	+
		wä	GL	100						+	+				+						+	+	+	+
<b>1059</b>	<b>ammonium carbonate</b> (NH4)2CO3 CH8N2O3	wä	GL	20	+	+	+	+	+	+		+	+	+	+	+	+	+	+	+	+	+	+	
		wä	GL	40	+	+	+	+				+			+	+	+	+	+	+	+	+	+	+
		wä	GL	60	0								+			+	+	0	+	+	+	+	+	+
		wä	GL	80											+					+	+	+	+	+
		wä	GL	100											+					+	+	+	+	+
<b>1060</b>	<b>ammonium chloride</b> NH4Cl H4ClN	wä	27% (GL)	20	+	+	+	+	+	+		+	0	+	+	+	+	+	+	+	+	+	+	
		wä	27% (GL)	40	+	+	+	+	+	+		+	0	+	+	+	+	+	+	+	+	+	+	+
		wä	27% (GL)	60	0	+	+	+	+	+		+	0	+	+	+	+	+	+	+	+	+	+	+
		wä	27% (GL)	80			+	+	+	+		+	-	+	+	+	+	+	+	+	+	+	+	+
		wä	27% (GL)	100			+	+	+	+		+	0	0		+	+	+	+	+	+	+	+	+
<b>1061</b>	<b>ammonium citrate</b> triammonium citrate citric acid triammonium salt H4NO2CCH2C(OH)(CO2NH4)CH2CO2NH4 C6H17N3O7	TR	TR	20	+			+	+	+														
		TR	TR	40	+			+	+	+														
		TR	TR	60	0			+	+	+														
		TR	TR	80				+	+	+														
		TR	TR	100					+	+														

**Abbreviations:** fe = humid; fl = liquid; gf = gaseous; tr = dry; wä = aqueous solution

GL = low concentration; GL = cold saturated solution; H = usual in trade; HK = high concentration; TR = technically pure; VL = diluted solution

+ = resistant; 0 = conditionally resistant; - = non-resistant



## Chemical Resistance

Release Date: 2017-03-22

		Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor		
1062	ammonium dichromate	wä	GL	20	+	+	+	+	+	+	+					+		+	+		+	+		+	+		
		wä	GL	40					+	+	+				+	+	+		+			+	+		+	+	
		wä	GL	60						+	+	+			+	+	+					+	+		+	+	
		wä	GL	80							+	+					+						+	+		+	+
		wä	GL	100																			+	+			
(NH4)2Cr2O7																											
H8Cr2N2O7																											
1063	ammonium fluoride	wä	VL	20	+	+	+	+	+	+	+					+	+	+	+	+	+	+	+				
		wä	VL	40	+	+	+	+	+	+	+						+	+	+	+	+	+	+	+			
		wä	VL	60		+	+	+	+	+	+						+		+			+	+	+			
		wä	VL	80						+	+	+						+		+		+	+	+			
		wä	VL	100						+	+	+						+	+	-	+	+	+	+			
		wä	GL	20			+	+	+	+	+						+	+	+	+	+	+	+	+			
		wä	GL	40			+	+	+	+	+						+	+	+	+	+	+	+	+			
		wä	GL	60			+	+	+	+	+						+	0	+	+	+	+	+	+			
		wä	GL	80						+	+	+						+		+	+	+	+	+			
wä	GL	100						+	+	+								+	+		+	+					
NH4F																											
H4FN																											
1064	ammonium hexafluorosilicate	wä	GL	20	+	+	+	+	+	+	+					+			+		+	+	+	+	+		
		wä	GL	40		+	+	+	+	+	+						+		+			+	+	+	+		
		wä	GL	60						+	+	+					+					+	+	+	+		
		wä	GL	80						+	+	+					+					+	+	+	+		
		wä	GL	100						+	+	+					+					+	+	+	+		
(NH4)2SiF6																											
H8F6N2Si																											
1065	ammonium formate	wä	GL	20	+	+	+	+	+	+	+					+		+	+		+	+	+	+	+		
		wä	GL	40		+	+	+	+	+	+						+					+	+	+	+		
		wä	GL	60						+	+	+					+					+	+	+	+		
		wä	GL	80						+	+	+					+					+	+	+	+		
		wä	GL	100						+	+	+					+					+	+	+	+		
formic acid ammonium salt																											
HCO2NH4																											
CH5NO2																											

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## Chemical Resistance

Release Date: 2017-03-22

Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor		
																							+		
<b>1066</b> ammonium bicarbonate  NH4HCO3 CH5NO3	GL	20	+	+	+	+	+	+	+			+	+	+	+	+	+	+	+	+	+	+	+		
		40	+	+	+	+	+	+	+			+	+	+	+	+	+	+	+	+	+	+	+	+	
		60		+	+	+							+	+	+										
		80											+	+	+										
		100																							
<b>1067</b> ammonium bisulfate  (NH4)HSO4 H5NO4S	GL	20	+	+	+	+	+	+	+				+	+	+	+	+	+	+	+	+	+	+		
		40	+	+	+	+	+	+	+				+	+	+	+	+	+	+	+	+	+	+	+	
		60			+	+	+	+	+				+	+	0	+	+	0	+	+	+	+	+	+	
		80						+	+	+				+			+			+	+	+	+	+	
		100							+	+					+					+	+	+			
<b>1068</b> ammonium bisulfide  (NH4)HS H5NS	VL	20	+	+	+	+	+	+	+				+	+	+	+	+	+	+	+	+	+	+		
		40	+				+	+	+				+	+	+	+	0	+	+	+	+	+	+		
		60	+				+	+	+				+	+	+	+	0	+	+	+	+	+	+		
		80					+	+	+								-	+	+	+	+	+	+		
		100					+	+	+											+	+	+			
<b>1069</b> ammonium heptamolybdate  (NH4)6Mo7O24 H24Mo7N6O24	GL	20	+	+	+	+		+	+							+	+		+	+	+	+			
		40		+	+	+		+	+							+	+		+	+	+	+	+		
		60						+	+										+	+	+	+	+		
		80						+	+										+	+	+	+	+		
		100						+	+																

**Abbreviations:** fe = humid; fl = liquid; gf = gaseous; tr = dry; wä = aqueous solution

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## Chemical Resistance

Release Date: 2017-03-22

Condition	Concentration	Temperature [°C]	Material																						
			PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor		
1070  NH4NO3 H4N2O3	ammonium nitrate	wä 10% 20	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
		wä 10% 40	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
		wä 10% 60	0	0	+	+	+	+	+	+	+	+	+	+	0	+	+	+	+	+	+	+	+	+	+
		wä 10% 80			0	0	+	+	+	+	+	+	+	+		+	+	+	+	+	+	+	+	+	+
		wä 10% 100					+	+	+	+	+	+	+	+					+	+	+	+	+	+	+
		wä 50% 20	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
		wä 50% 40	+	+	+	+	+	+	+	+	+	+	+	+	0	+	+	+	+	+	+	+	+	+	+
		wä 50% 60	0	0	+	+	+	+	+	+	+	+	+	+	0		+			+	+	+	+	+	+
		wä 50% 80					+	+	+	+	+	+	+	+	0		+			+	+	+	+	+	+
		wä 50% 100								+	+		+	+	-					+	+	+	+	+	+
		wä GL 20	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
		wä GL 40	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
		wä GL 60	0	0	+	+	+	+	+	+	+	+	+	+	0	+	+	+	0	+	+	+	+	+	+
		wä GL 80			0	0	+	+	+	+	+	+	+	+			+			+	+	+	+	+	+
		wä GL 100								+	+	+		+	+	+				+	+	+	+	+	+
1071  oxalic acid diammonium salt  (NH4)2C2O4 C2H8N2O4	ammonium oxalate	wä GL 20	+	+	+	+	+	+	+				+			+		+	+	+	+	+	+		
		wä GL 40		+	+	+	+	+	+				+			+			+	+	+	+	+	+	
		wä GL 60					+	+	+				+						+	+	+	+	+	+	
		wä GL 80					+	+	+				+						+	+	+	+	+	+	
		wä GL 100					+	+	+				+						+	+	+	+	+	+	

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## Chemical Resistance

Release Date: 2017-03-22

Condition	Concentration	Temperature [°C]	Material																					
			PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor	
<b>1072</b> ammonium peroxodisulfate  (NH4)2S2O8 H8N2O8S2	wä VL	20	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
	wä VL	40	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
	wä VL	60	+				+	+	+										+	+	+	+	+	+
	wä VL	80					+	+	+										+	+	+	+	+	+
	wä VL	100					+	+	+										+	+	+	+	+	+
	wä GL	20	+	+	+	+	+	+	+								+		+	+	+	+	+	+
	wä GL	40	+	+	+	+	+	+	+								+		+	+	+	+	+	+
	wä GL	60					+	+	+										+	+	+	+	+	+
	wä GL	80					+	+	+										+	+	+	+	+	+
	wä GL	100					+	+	+										+	+	+	+	+	+
<b>1073</b> ammonium hydrogenphosphate  (NH4)2HPO4 H9N2O4P	wä GL	20	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
	wä GL	40	+	+	+	+	+	+	+		+	+	+	+	+	+	+	+	+	+	+	+	+	+
	wä GL	60	+	+	+	+	+	+	+		+	+	+	+	0	+	+	0	+	+	+	+	+	+
	wä GL	80			+	+	+	+	+					+		+	+		+	+	+	+	+	+
	wä GL	100			+	+	+	+	+					+		+	+		+	+	+	+	+	+
<b>1074</b> ammonium thiocyanate ammonium rhodanide  NH4SCN CH4N2S	wä GL	20	+	+	+	+	+	+	+					+		+		+	+	+	+	+	+	+
	wä GL	40		+	+	+	+	+	+					+		+		+	+	+	+	+	+	+
	wä GL	60		+	+	+	+	+	+					+				+	+	+	+	+	+	+
	wä GL	80					+	+	+										+	+	+			
	wä GL	100					+	+	+										+	+	+			
<b>1075</b> ammonium sulfamate sulfamic acid ammonium salt  NH2SO3NH4 H6N2O3S	wä GL	20		+	+	+		+	+							+			+	+	+	+	+	+
	wä GL	40		+	+	+		+	+							+			+	+	+	+	+	+
	wä GL	60						+	+										+	+	+	+	+	+
	wä GL	80						+	+										+	+	+	+	+	+
	wä GL	100						+	+															

**Abbreviations:** fe = humid; fl = liquid; gf = gaseous; tr = dry; wä = aqueous solution

GK = low concentration; GL = cold saturated solution; H = usual in trade; HK = high concentration; TR = technically pure; VL = diluted solution

+ = resistant; 0 = conditionally resistant; - = non-resistant



## Chemical Resistance

Release Date: 2017-03-22

	Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSIC	Carbon	Al2O3	Al2O3 Sensor	
1076  (NH4)2SO4 H8N2O4S	wä	10%	20	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
	wä	10%	40	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
	wä	10%	60	0	+	+	+	+	+	+	+	+	0	+	+	0	+	+	0	+	+	+	+	+	
	wä	10%	80			+	+	+	+	+		+	0	+	+		+	+		+	+	+	+	+	
	wä	10%	100					+	+	+			0	+	+			+		+	+	+	+		
	wä	GL	20	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
	wä	GL	40	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
	wä	GL	60	0	+	+	+	+	+	+	+		+	0	+	+	0	+	+	0	+	+	+	+	+
	wä	GL	80			+	+	+	+	+			+	0	+	+		+	+		+	+	+	+	+
	wä	GL	100					+	+	+				0	+	+			+		+	+	+	+	

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GK = low concentration; GL = cold saturated solution; H = usual in trade; HK = high concentration; TR = technically pure; VL = diluted solution

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## Chemical Resistance

Release Date: 2017-03-22

		Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1.4301	V4A 1.4571	Hast-C 2.4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor	
<b>1077</b>	ammonium sulfide  (NH4)2S H8N2S	wä	10%	20	+	+	+	+	+	+	+	+			+		+	+	+	+	+	+	+	+	+	
		wä	10%	40	+	+	+	+	+	+	+	+				+		+	+	0	+	+	+	+	+	+
		wä	10%	60	0	+	+	+	+	+	+	+				+		+	+	-	+	+	+	+	+	+
		wä	10%	80			+				+	+											+	+		
		wä	10%	100							+	+											+	+		
		wä	20%	20	+	+	+	+	+	+	+	+	+			+		+	+	+	+	+	+	+	+	+
		wä	20%	40	+	+	+	+	+	+	+	+	+			+		+	+	0	+	+	+	+	+	+
		wä	20%	60	0	+	+	+	+	+	+	+				+		+	+	-	+	+	+	+	+	+
		wä	20%	80			+				+	+											+	+		
		wä	20%	100							+	+											+	+		
		wä	40%	20	+	+	+	+	+	+	+	+	-			+		+	+	+	+	+	+	+	+	+
		wä	40%	40	+	+	+	+	+	+	+	+	-			+		+	+	0	+	+	+	+	+	+
		wä	40%	60	0	+	+	+	+	+	+	+				+		+	+	-	+	+	+	+	+	+
		wä	40%	80							+	+											+	+		
		wä	40%	100							+	+											+	+		
		wä	GL	20	+	+	+	+	+	+	+	+	-			+		+	+	+	+	+	+	+	+	+
		wä	GL	40	+	+	+	+	+	+	+	+	-			+		+	+	0	+	+	+	+	+	+
		wä	GL	60	0	+	+	+	+	+	+	+				+		+	+	-	+	+	+	+	+	+
		wä	GL	80							+	+											+	+		
		wä	GL	100							+	+											+	+		
<b>1078</b>	1-pentyl acetate acetic acid amyl ester CH3CO2C5H11 C7H14O2	TR	TR	20	-	+	0	0		+	+			+	+	+	-	0	0	0	+	+		+		
		TR	TR	40	-	+	-	-		+	+			+	+	+		-	-	-	+	+		+		
		TR	TR	60	-	+	-	-		+	+			+	+	+			-	-	+	+		+		
		TR	TR	80						+	+			+	+	+							+	+	+	
		TR	TR	100						+	+			+	+	+							+	+	+	
		TR	TR	120						+	+			+	+	+							+	+	+	

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## Chemical Resistance

Release Date: 2017-03-22

Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor	
1079	1-pentanol amyl alcohol  CH3(CH2)4OH C5H12O	TR 20	+	+	+	+	+	+	+	-	+			+			+	0	+	+	+	+	+	
		TR 40	+	+	+	+	+	+	+		0				+				+	+	+	+	+	
		TR 60	0									0								+	+	+	+	+
		TR 80																		+	+	+	+	+
		TR 100																		+	+	+	+	+
		TR 120								0	+	+				+					+	+	+	+
1080	amyl chloride 1-chloropentane 1-pentyl chloride CH3(CH2)4Cl C5H11Cl	TR 20	-	0			+	+	+			+	+	+		-			+	+	+	+	+	
		TR 40	-	-			+	+	+			+	+	+					+	+	+	+	+	
		TR 60	-				+	+	+			+	+	+					+	+	+	+	+	
		TR 80					+	+	+			+	+	+						+	+	+	+	+
		TR 100					+	+	+			+	+	+						+	+	+	+	+
1081	amyl laurate dodecanoic acid pentyl ester lauric acid amyl ester CH3(CH2)10CO2C5H11 C17H34O2	TR 20	-					+	+			+	+	+					+	+	+	+	+	
		TR 40						+	+			+	+	+					+	+	+	+	+	
		TR 60						+	+			+	+	+					+	+	+	+	+	
		TR 80						+	+			+	+	+						+	+	+	+	
		TR 100						+	+			+	+	+						+	+	+	+	+
		TR 120						+	+			+	+	+						+	+	+	+	+
1082	p-tert-amyl phenol 4-(2-methyl-2-butyl)phenol  CH3CH2C(CH3)2C6H4OH C11H16O	TR 20	-				-	+	+															
		TR 40	-					+	+															
		TR 60	-					+	+															
		TR 80						+	+															
		TR 100						+	+															
		TR 120						+	+															

**Abbreviations:** fe = humid; fl = liquid; gf = gaseous; tr = dry; wä = aqueous solution

GL = low concentration; H = usual in trade; HK = high concentration; TR = technically pure; VL = diluted solution

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## Chemical Resistance

Release Date: 2017-03-22

	Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSIC	Carbon	Al2O3	Al2O3 Sensor	
<b>1083</b> aniline aminobenzene phenylamine C6H5NH2 C6H7N	wä	GL	20	-	0	0	0	+	+	+	-	-	+	+	+	0	+	+	-	+	+	+	+	+	
	wä	GL	40	-	0	0	0	+	+	+	-	-	+	+	+	0	+	0	-	+	+	+	+	+	
	wä	GL	60	-					+	+			+	+	+	-		-	-	+	+	+	+	+	
	wä	GL	80						+	+			+	+	+					+	+	+	+	+	
	wä	GL	100						+	+			+	+	+						+	+	+	+	
		TR	20	-	0	0	0	+	+	+	-	-	+	+	+	-	-	+	-	+	+	+	+	+	+
		TR	40	-	0	0	0	0	+	+			+	+	+			0	-	+	+	+	+	+	+
		TR	60						+	+			+	+	+	-		-	-	+	+	+	+	+	+
		TR	80						+	+			+	+	+					+	+	+	+	+	+
		TR	100						+	+			+	+	+						+	+	+	+	+
		TR	120						+	+			+	+	+						+	+	+	+	+
	<b>1084</b> aniline sulfate anilinium sulfate  (C6H5NH3)2SO4 C12H16N2O4S		TR	20	-					+	+														
		TR	40						+	+															
		TR	60						+	+															
		TR	80						+	+															
		TR	100						+	+															
<b>1085</b> aniline sulfite anilinium sulfite  (C6H5NH3)2SO3 C12H16N2O3S		TR	20	+					+	+															
		TR	40						+	+															
		TR	60						+	+															
		TR	80						+	+															
		TR	100						+	+															

**Abbreviations:** fe = humid; fl = liquid; gf = gaseous; tr = dry; wä = aqueous solution

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## Chemical Resistance

Release Date: 2017-03-22

Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor
			1086	p-anisaldehyde	20	-					+	+		-	+	+	+					+	+
	4-methoxybenzaldehyde	40	-					+	+			+	+	+					+	+	+	+	+
		60	-					+	+			+	+	+					+	+	+	+	+
	CH3OC6H4CHO	80						+	+			+	+	+						+		+	+
	C8H8O2	100						+	+			+	+	+						+		+	+
1087	anisole	20	-	0	0	0		+	+		-	+	+	+	-	-	-	0	+	+	+	+	+
	methoxybenzene	40	-	-	-	-		+	+			+	+	+					+	+	+	+	+
	methyl phenyl ether	60	-	-	-	-		+	+			+	+	+					+	+	+	+	+
	C6H5OCH3	80						+	+			+	+	+						+		+	+
	C7H8O	100						+	+			+	+	+						+		+	+
		120										+	+	+						+		+	+
1088	anise oil	20		0				+	+														
		40		0				+	+														
		60		-				+	+														
		80						+	+														
		100						+	+														
1089	sodium thiosulfate	wä 40% (GL)	20	+	+	+	+	+	+			+	+	+	+	+	+	+	+	+	+	+	+
		wä 40% (GL)	40	+	+	+	+	+	+			+	+	+	0	+	+	+	+	+	+	+	+
		wä 40% (GL)	60	0	+	+	+	+	+			+	+	+	-	+	+	+	+	+	+	+	+
	Na2S2O3	wä 40% (GL)	80					+	+					+			+		+	+	+	+	+
	Na2O3S2	wä 40% (GL)	100					+	+					+			+		+	+	+	+	+

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Release Date: 2017-03-22

Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSIC	Carbon	Al2O3	Al2O3 Sensor
			1090	benzaldehyde oxime	wä	2%	20	+	+	+	+	+	+	+	+	+	+	0	+	+	+	+	+
		wä	2%	40			+	+	+			+	+	+					+	+	+	+	+
		wä	2%	60			+	+	+			+	+	+					+	+	+	+	+
	C6H5CH=NOH	wä	2%	80					+	+		+	+	+					+	+	+	+	+
	C7H7NO	wä	2%	100					+	+		+	+	+					+	+	+	+	+
1091	antimony pentachloride		TR	20	+	+		+	+	+	-	-	-	+					+	+			
	antimony(V) chloride		TR	40				+	+	+									+	+			
			TR	60				+	+	+										+			
	SbCl5		TR	80				+	+	+													
	Cl5Sb		TR	100				+	+	+													
			TR	120					+	+													
1092	antimony trichloride	wä	90%	20	+	+	+	+	+	+	-	+	-	-	+	+	+	+					
	antimony(III) chloride	wä	90%	40	+	+	+	+	+	+		+			+	+	+	+					
		wä	90%	60	+	+	+	+	+	+		+			+	+	+	+					
	SbCl3	wä	90%	80					+	+													
	Cl3Sb	wä	90%	100					+	+													
		wä	90%	120					+	+													
1093	malic acid	wä	GL	20	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
	hydroxysuccinic acid	wä	GL	40		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
	hydroxybutanedioic acid	wä	GL	60		+	+	+	+	+		+	+	+	+	+	+	+	+	+	+	+	+
	HO2CCH2CH(OH)CO2H	wä	GL	80					+	+	+	+	+	+					+	+	+		
	C4H6O5	wä	GL	100					+	+	+	+	+	+					+	+	+		

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Release Date: 2017-03-22

Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1.4301	V4A 1.4571	Hast-C 2.4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor
																							+
1094	arsenious acid	wä VL 20	+				+	+	+					+					+	+	+	+	+
		wä VL 40						+	+					+					+	+	+	+	+
		wä VL 60						+	+					+					+	+	+	+	+
		wä VL 80						+	+					+					+	+	+	+	+
		wä VL 100						+	+					+					+	+	+	+	+
H3AsO3																							
H3AsO3																							
1095	arsenic acid	wä 80% 20	+	+	+	+	+	+	+	+	+		+	+	+	+	+	+	+	+	+	+	
		wä 80% 40	+	+	+	+	+	+	+	+			+	+	+	+	+	+	+	+	+	+	
		wä 80% 60	0	+	+	+	+	+	+	+			+	+	+	+	+	+	+	+	+	+	
		wä 80% 80	-		+		+	+	+	+			+	+	0	+	+	+	+	+	+	+	
		wä 80% 100			0		+	+	+	+			+	+			+	+	+	+	+	+	
		wä 80% 120						+	+	+			+	+			+	+	+	+	+	+	
H3AsO4																							
H3AsO4																							
1096	arsenic sulfides	TR 20	+				+	+	+														
		TR 40					+	+	+														
		TR 60					+	+	+														
		TR 80					+	+	+														
		TR 100					+	+	+														
		TR 120						+	+	+													
As4Sx (x = 3,4,5,6,10)																							
As4Sx																							
1097	arsenic trioxide	TR 20	+				+	+	+														
		TR 40					+	+	+														
		TR 60					+	+	+														
		TR 80					+	+	+														
		TR 100					+	+	+														
		TR 120						+	+	+													
arsenic(III) oxide																							
arsenious acid anhydride																							
As2O3																							

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Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor		
1098 vitamin C  C6H8O6	L(+)-ascorbic acid	wä	GL	20	+	+	+	+	+	+	+			+		+	+		+	+	+	+	+		
		wä	GL	40	+	+	+	+	+	+	+				+					+	+	+	+	+	
		wä	GL	60	0		+	+		+	+				+						+	+	+	+	+
		wä	GL	80												+					+	+	+	+	+
		wä	GL	100												+					+	+	+	+	+
1099  NH4H2PO4 H6NO4P	ammonium dihydrogenphosphate	wä	GL	20	+	+	+	+	+	+	+					+	+	+		+	+	+	+	+	
		wä	GL	40	+	+	+	+	+	+	+					0	+	+		+	+	+	+	+	+
		wä	GL	60		+	+	+	+	+	+						-	+	+		+	+	+	+	+
		wä	GL	80			+	+	+	+	+						+	+			+	+	+	+	+
		wä	GL	100					+	+	+										+	+	+	+	+
1100  BaCO3 CBaO3	barium carbonate	wä	GL	20	+	+	+	+	+	+	+			+	+	+	+	+	+	+	+	+	+	+	
		wä	GL	40	+	+	+	+	+	+	+			+	+	+	+	+	+	+	+	+	+	+	+
		wä	GL	60		+	+	+	+	+	+			+	+	+	+	+	+	+	+	+	+	+	+
		wä	GL	80					+	+	+				+	-	+	+	-	+	+	+	+	+	+
		wä	GL	100					+	+	+				+						+	+	+	+	+
1101  BaCl2	barium chloride	wä	GL	20	+	+	+	+	+	+	+			+	+	+	+	+	+	+	+	+	+	+	
		wä	GL	40	+	+	+	+	+	+	+				+	+	+	+	+	+	+	+	+	+	+
		wä	GL	60	0	+	+	+	+	+	+				+	0	+	+	+	+	+	+	+	+	+
		wä	GL	80					+	+	+				+	-	+	+	-	+	+	+	+	+	+
		wä	GL	100					+	+	+				+						+	+	+	+	+
1102  Ba(CN)2 C2BaN2	barium cyanide	wä	GL	20	+	+	+	+	+	+	+			+	+	+	+	+	+	+	+	+	+	+	
		wä	GL	40	+	+	+	+	+	+	+			+	+	0	+	0	+	+	+	+	+	+	+
		wä	GL	60		+	+			+	+			+	+	-	+	-	+	+	+	+	+	+	+
		wä	GL	80					+	+					+						+	+	+	+	+
		wä	GL	100					+	+					+						+	+	+	+	+

**Abbreviations:** fe = humid; fl = liquid; gf = gaseous; tr = dry; wä = aqueous solution

GK = low concentration; GL = cold saturated solution; H = usual in trade; HK = high concentration; TR = technically pure; VL = diluted solution

+ = resistant; 0 = conditionally resistant; - = non-resistant



## Chemical Resistance

Release Date: 2017-03-22

Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor	
																							+	
1103	barium hydroxide	wä	GL	20	+	+	+	+	+	+	+			+	+	+	+	+	+	+	+	+	+	
		wä	GL	40	+	+	+	+	+	+	+	+			+	+	0	0	+	+	+	+	+	+
		wä	GL	60	0	+	+			+	+				+		+	0	-	+	+	+	0	
		wä	GL	80			+	-	-	+	+				+		+	-		+	+	+		
		wä	GL	100						+	+				+					+	+	+		
Ba(OH)2																								
H2BaO2																								
1104	barium nitrate	wä	GL	20	+	+	+	+	+	+	+			+	+	+	+	+	+	+	+	+	+	
		wä	GL	40	+	+	+	+	+	+	+	+			+	+	+	+	+	+	+	+	+	+
		wä	GL	60		+	+	+	+	+		+			+	+	+	+	0	+	+	+	+	+
		wä	GL	80					+	+					+	0	+	+		+	+	+	+	+
		wä	GL	100					+	+					+					+	+	+		
Ba(NO3)2																								
BaN2O6																								
1105	barium peroxide	wä	GL	20	+	+	+	+	+	+	+			+	+	+	+	+	+	+	+	+	+	
		wä	GL	40		+	+	+	+	+	+				+	+	+	+	+	+	+	+	+	+
		wä	GL	60		+	+	+		+	+				+	+	+	+	0	+	+			
		wä	GL	80					+	+							+	+		+	+			
		wä	GL	100					+	+											+	+		
BaO2																								
1106	barium sulfate	wä	GL	20	+	+	+	+	+	+	+			+	+	+	+	+	+	+	+	+	+	
		wä	GL	40	+	+	+	+	+	+	+	+			+	+	+	+	+	+	+	+	+	+
		wä	GL	60	+	+	+	+	+	+	+	+			+	+	+	+	+	+	+	+	+	+
		wä	GL	80			+	+	+	+	+	+			+	0	+	+	0	+	+	+	+	+
		wä	GL	100					+	+	+				+					+	+	+	+	+
baryta white																								
BaSO4																								
BaO4S																								
1107	barium sulfide	wä	GL	20	+	+	+	+	+	+	+			+	+	+	+	+	+	+	+	+	+	
		wä	GL	40	+	+	+	+	+	+	+				+	+	+	+	+	+	+	+	+	+
		wä	GL	60	0	+	+	+		+	+				+	+	+	0	+	+	+		+	+
		wä	GL	80					+	+							+		0	+	+		+	
		wä	GL	100					+	+										+	+			
BaS																								

**Abbreviations:** fe = humid; fl = liquid; gf = gaseous; tr = dry; wä = aqueous solution

GK = low concentration; GL = cold saturated solution; H = usual in trade; HK = high concentration; TR = technically pure; VL = diluted solution

+ = resistant; 0 = conditionally resistant; - = non-resistant





## Chemical Resistance

Release Date: 2017-03-22

Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor	
																							+	
<b>1110</b>	<b>benzal chloride</b>	TR	20	-					+	+	-	+	+	+					+	+	+	+	+	
		TR	40	-					+	+		+	+	+					+	+	+	+	+	+
		TR	60	-					+	+		+	+	+					+	+	+	+	+	+
		TR	80						+	+		+	+	+							+	+	+	+
		TR	100						+	+		+	+	+								+	+	+
		TR	120						+	+		+	+	+							+	+	+	+
<b>1111</b>	<b>benzaldehyde</b>	wä	GL	20	-	+	+	+	+	+	-	+	+	+	0		+	-	+	+	+	+	+	
		wä	GL	40	-	+	+	+	+	+		+	+	+	0		+		+	+	+	+	+	
		wä	GL	60	-	+	0	0		+	+		+	+	+	0		+		+	+	+	+	
		wä	GL	80					+	+		+	+	+						+	+	+	+	
		wä	GL	100					+	+		+	+	+						+	+	+	+	
<b>1112</b>	<b>benzamide</b>	wä	GL	20	+	+	+	+	+			+	+	+					+	+	+	+	+	
		wä	GL	40	+	+	+	+	+	+			+	+	+					+	+	+	+	
		wä	GL	60	0	+	+	+	+	+			+	+	+					+	+	+	+	
		wä	GL	80					+	+			+	+	+					+	+	+	+	
		wä	GL	100					+	+			+	+	+					+	+	+	+	
<b>1113</b>	<b>gasoline, free of lead and aromatics</b>			20	+	+	0	0	+	+	+	+	+	+	+	-	+	0	+	+	+	+	+	
				40	+	+	0	0	+	+	+	+	+	+	+	+		+	-	+	+	+	+	
				60	+	0	-	-	+	+	+		+	+	+			+		+	+	+	+	
				80			-	-	+	+	+		+	+	+					+	+	+	+	
				100					+	+	+		+	+	+					+	+	+	+	

**Abbreviations:** fe = humid; fl = liquid; gf = gaseous; tr = dry; wä = aqueous solution

GK = low concentration; GL = cold saturated solution; H = usual in trade; HK = high concentration; TR = technically pure; VL = diluted solution

+ = resistant; 0 = conditionally resistant; - = non-resistant



## Chemical Resistance

Release Date: 2017-03-22

Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor		
																							+		
<b>1114</b>	gasoline, Super	20	+	+	0	0	+	+	+	+	0	+	+	+	+	-	+	0	+	+	+	+	+		
		40	+	+	0	0	+	+	+	+		+	+	+	+		+	-	+	+	+	+	+	+	
		60		0	-	-	+	+	+	+			+	+	+			+		+	+	+	+	+	+
		80					+	+	+	+			+	+	+					+	+	+	+	+	+
		100					+	+	+	+			+	+	+					+	+	+	+	+	+
<b>1115</b>	petrol-benzene mixture	20	-	0	0	0		+	+		-	+	+	+	+	-	+	0	+	+	+	+	+		
		40	-	-	-	-		+	+			+	+	+	+		+	-	+	+	+	+	+	+	
		60	-	-	-	-		+	+			+	+	+	+		+		+	+	+	+	+	+	
		80					+	+				+	+	+	+					+	+	+	+	+	+
		100					+	+				+	+	+	+					+	+	+	+	+	+
		120					+	+					+	+	+										
<b>1116</b>	benzoic acid benzenecarboxylic acid phenylformic acid C6H5CO2H C7H6O2	wä GL	20	+	+	+	+		+	+	-	-	+	+	+	-	-	+	-	+	+	+	+		
		wä GL	40	+	+	+	+		+	+	-		+	+	+		+		+	+	+	+	+	+	
		wä GL	60	0	+	+	+		+	+			+	+	+		+		+	+	+	+	+	+	
		wä GL	80			+	+		+	+			+	+	+		+		+	+	+	+	+	+	+
		wä GL	100					+	+				+	+	+		0		+	+	+	+			
<b>1117</b>	benzene   C6H6	TR	20	-	0	0	0	+	+	+		-	+	+	+	0	-	+	-	+	+		+	+	
		TR	40	-	-	-	-	+	+	+			+	+	+		-		-	+	+		+	+	
		TR	60	-	-	-	-	0	+	+			+	+	+		-		-	+	+		+	+	
		TR	80					-	+	+			+	+	+		-		-	+	+		+	+	

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GK = low concentration; GL = cold saturated solution; H = usual in trade; HK = high concentration; TR = technically pure; VL = diluted solution

+ = resistant; 0 = conditionally resistant; - = non-resistant



## Chemical Resistance

Release Date: 2017-03-22

Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor
<b>1118</b> benzoic anhydride  (C6H5CO)2O C14H10O3	TR	20	+	+	+	+		+	+														
	TR	40			+	+		+	+														
	TR	60			+	+		+	+														
	TR	80						+	+														
	TR	100						+	+														
<b>1119</b> sodium benzoate  benzoic acid sodium salt  C6H5CO2Na C7H5NaO2	wä	GL	20	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
	wä	GL	40	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
	wä	GL	60	0	+	+	+	+	+	+	+	+	+	+	0	+	+	0	+	+	+	+	+
	wä	GL	80					+	+	+					+	0	0		+	+	+	+	+
	wä	GL	100				0	+	+						+				+	+	+		
<b>1120</b> benzenesulfonic acid  phenylsulfonic acid  C6H5SO3H C6H6O3S	wä	10%	20	+	+	+	+	+	+					+	0		0	+	+	+	+	+	
	wä	10%	40	+	+	+	+	+	+					+	-			+	+	+	+	+	
	wä	10%	60	+	+	+	+		+	+								+	+	+	+	+	
	wä	10%	80					+	+										+	+	+	+	
	wä	10%	100					+	+										+				
	wä	40%	20	+	+	+	+	+	+					+	0		0	+	+	+	+	+	
	wä	40%	40	+	+	+	+	+	+					+	-			+	+	+	+	+	
	wä	40%	60	+	+	+	+		+	+									+	+	+	+	
	wä	40%	80					+	+										+	+	+	+	
	wä	40%	100					+	+										+				
	wä	GL	20		+	+	+	+	+	+					+	0		0	+	+	+	+	
	wä	GL	40		+	+	+	+	+	+					+	-			+	+	+	+	
	wä	GL	60		+	+	+		+	+									+	+	+	+	
	wä	GL	80					+	+										+	+	+	+	
	wä	GL	100					+	+										+				

**Abbreviations:** fe = humid; fl = liquid; gf = gaseous; tr = dry; wä = aqueous solution

GK = low concentration; GL = cold saturated solution; H = usual in trade; HK = high concentration; TR = technically pure; VL = diluted solution

+ = resistant; 0 = conditionally resistant; - = non-resistant



## Chemical Resistance

Release Date: 2017-03-22

Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor
<b>1121</b> benzoyl chloride benzoic acid chloride C6H5COCl C7H5ClO	TR	20	-	0	0	0	+	+	+	-	-			+					+	+	+	+	+
	TR	40	-	0				+	+					+					+	+	+	+	+
	TR	60	-	0				+	+					+					+	+	+	+	+
	TR	80						+	+					+					+	+	+		
	TR	100						+	+					+					+	+	+		
	TR	120						+	+					+					+	+	+		
<b>1122</b> benzyl alcohol C6H5CH2OH C7H8O	TR	20	0	+	+	+	+	+	+		-	+	+	+	-	0	+	0	+	+	+	+	+
	TR	40	-	+	+	+	+	+	+			+	+	+				0	+	+	+	+	+
	TR	60		+	0	0	+	+	+			+	+	+				0	+	+	+	+	+
	TR	80					+	+	+			+	+	+				-	+	+	+	+	+
	TR	100					0	+	+			+	+	+						+	+	+	+
	TR	120						+	+			+	+	+						+	+	+	+
<b>1123</b> benzyl chloride a-chlorotoluene C6H5CH2Cl C7H7Cl	TR	20	-	-	-	-	+	+	+		-	+	+	+		-			+	+	+	+	+
	TR	40	-	-			+	+	+			+	+	+					+	+	+	+	+
	TR	60	-	-	-	-	0	+	+			+	+	+					+	+	+	+	+
	TR	80					0	+	+			+	+	+					+	+	+	+	+
	TR	100			-	-		+	+			+	+	+						+	+	+	+
	TR	120						+	+			+	+	+						+	+	+	+
<b>1124</b> N-benzyl-N-ethylaniline N-ethyl-N-phenylbenzylamine N-benzyl-N-ethylphenylamine C6H5CH2N(C6H5)C2H5 C15H17N	TR	20	-	-	-	-		+	+														
	TR	40						+	+														
	TR	60						+	+														
	TR	80						+	+														
	TR	100						+	+														
	TR	120						+	+														

**Abbreviations:** fe = humid; fl = liquid; gf = gaseous; tr = dry; wä = aqueous solution

GL = low concentration; GL = cold saturated solution; H = usual in trade; HK = high concentration; TR = technically pure; VL = diluted solution

+ = resistant; 0 = conditionally resistant; - = non-resistant

## Chemical Resistance

Release Date: 2017-03-22

Condition	Concentration	Temperature [°C]	Material																							
			PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSIC	Carbon	Al2O3	Al2O3 Sensor			
1125	succinic acid butanedioic acid ethane-1,2-dicarboxylic acid HO2CCH2CH2CO2H C4H6O4	20	+	+	+	+	+	+	+	-																
		40	+	+	+	+	+	+	+																	
		60	+	+	+	+	+	+	+																	
		80																								
		100																								
1126	beryllium chloride BeCl2	20	+	+	+	+																				
		40	+	+	+	+																				
		60		+	+	+																				
		80																								
		100																								
1127	beryllium fluoride BeF2	20	+	+	+	+																				
		40																								
		60																								
		80																								
		100																								
1128	beryllium sulfate BeSO4 BeO4S	20	+	+																						
		40	+	+																						
		60	+	+																						
		80																								
		100																								
1129	beer	20	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
		40	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
		60	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
		80			+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
		100																								

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## Chemical Resistance

Release Date: 2017-03-22

Condition	Concentration	Temperature [°C]	Material																							
			PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor			
<b>1130</b>	<b>beer colour</b>	20	+	+	+	+	+	+	+	+																
		40	+	+	+	+	+	+	+																	
		60	+	+	+	+	+	+	+																	
		80																								
		100																								
		120																								
<b>1131</b>	<b>bisulfite lye</b>	wä	GL	20	+	+	+	+	+	+	+	+		+	+	0	+	0	0	+	+	+	+	+		
		hydrogensulfite lye	wä	GL	40	+	+	+	+		+	+			+	+	-	+	0	0	+	+	+	+	+	
			wä	GL	60	+	+	+	+		+	+										+	+	+	+	+
		NaHSO3 + SO2	wä	GL	80						+	+										+	+		+	+
		HO3SNa + O2S	wä	GL	100						+	+										+				
<b>1132</b>	<b>hydrogen cyanide</b>	gf	TR	20	+	+	+	+	+	+	+			+	+	+	0	0	+	+	+	+	+	+	+	
		hydrocyanic acid	gf	TR	40	+	+	+	+	+	+	+						-	-	0	0	+	+	+	+	+
			gf	TR	60	0	+	+	+	+	+	+										+	+	+	+	+
		HCN	gf	TR	80					+	+	+											+	+	+	+
		CHN	gf	TR	100					+	+	+											+	+	+	
			gf	TR	120					+	+												+	+	+	

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## Chemical Resistance

Release Date: 2017-03-22

	Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor
1133  lead(II) acetate  (CH3COO)2Pb C4H6O4Pb	wä	10%	20	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
	wä	10%	40	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
	wä	10%	60	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
	wä	10%	80					+	+	+			+	+	+					+	+	+	+	+
	wä	10%	100					+	+	+			+	+	+					+	+	+	+	+
	wä	GL	20	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
	wä	GL	40	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
	wä	GL	60	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
	wä	GL	80					+	+	+			+	+	+					+	+	+	+	+
	wä	GL	100					+	+	+											+	+	+	+
1134  lead(II) hydrogenarsenate  lead arsenate  PbHAsO4 HAsPbO4	wä	GL	20	+	+	+	+		+	+													+	+
	wä	GL	40						+	+													+	+
	wä	GL	60						+	+													+	+
	wä	GL	80						+	+														
	wä	GL	100						+	+														
1135  lead(II) carbonate  PbCO3 CO3Pb	wä	GL	20	+	+	+	+		+	+					+	+	+	+	+	+	+	+	+	+
	wä	GL	40	+	+	+	+		+	+					+	+	+	+	+	+	+	+	+	+
	wä	GL	60		+	+	+		+	+					+	+	+	+	+	+	+	+	+	+
	wä	GL	80						+	+					+	+	+	+	-	+	+	+		
	wä	GL	100						+	+					+					+	+	+		
1137  lead(II) chloride  PbCl2 Cl2Pb	wä	GL	20	+	+	+	+		+	+		+			+		+		+	+	+	+	+	+
	wä	GL	40	+	+	+	+		+	+		+			+		+		+	+	+	+	+	+
	wä	GL	60		+	+	+		+	+		+			+		+		+	+	+	+	+	+
	wä	GL	80						+	+					+					+	+	+	+	+
	wä	GL	100						+	+					+					+	+	+		

**Abbreviations:** fe = humid; fl = liquid; gf = gaseous; tr = dry; wä = aqueous solution

GK = low concentration; GL = cold saturated solution; H = usual in trade; HK = high concentration; TR = technically pure; VL = diluted solution

+ = resistant; 0 = conditionally resistant; - = non-resistant



## Chemical Resistance

Release Date: 2017-03-22

	Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1.4301	V4A 1.4571	Hast-C 2.4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor
1138  Pb(NO3)2 N2O6Pb	wä	GL	20	+	+	+	+	+	+	+		+			+			+		+	+	+	+	+
	wä	GL	40	+	+	+	+	+	+	+		+			+			+		+	+	+	+	+
	wä	GL	60	+	+	+	+	+	+	+					+			+		+	+	+	+	+
	wä	GL	80					+	+	+					+					+	+	+	+	+
	wä	GL	100					+	+	+					+					+	+	+	+	+
1139  PbSO4 O4PbS	wä	GL	20	+	+	+	+	+	+	+		+			+	+	+	+	+	+	+	+	+	+
	wä	GL	40	+	+	+	+	+	+	+		+			+	+	+	+	+	+	+	+	+	+
	wä	GL	60	+	+	+	+	+	+	+		+			+	+	+	+	+	+	+	+	+	+
	wä	GL	80			+	+	+	+	+					+	+	+	+	0	+	+	+	+	+
	wä	GL	100						+	+					+					+	+	+	+	+
1142  H3BO3	wä	VL	20	+	+	+	+	+	+	+	-	+	+	+	+	+	+	+	+	+	+	+	+	+
	wä	VL	40	+	+	+	+	+	+	+	-	+	+	+	+	+	+	+	+	+	+	+	+	+
	wä	VL	60	0	+	+	+	+	+	+		+	+	+	+	+	+	+	+	+	+	+	+	+
	wä	VL	80			+	+	+	+	+		+	+	+	+	+	+	+	+	+	+	+	+	+
	wä	VL	100					+	+	+					+			+		+	+	+	+	+
	wä	GL	20	+	+	+	+	+	+	+	-	+	+	+	+	+	+	+	+	+	+	+	+	+
	wä	GL	40	+	+	+	+	+	+	+	-	+	+	+	+	+	+	+	+	+	+	+	+	+
	wä	GL	60	0	+	+	+	+	+	+	-	+	+	+	+	+	+	+	+	+	+	+	+	+
	wä	GL	100			+	+		+	+		+	+	+	+	+	+	+	+	+	+	+	+	+
1143  trichlorborane  BCl3	gf	TR	20	+					+	+										+				
	gf	TR	40						+	+											+			
	gf	TR	60						+	+											+			
	gf	TR	80						+	+														
	gf	TR	100						+	+														

**Abbreviations:** fe = humid; fl = liquid; gf = gaseous; tr = dry; wä = aqueous solution

GL = low concentration; H = usual in trade; HK = high concentration; TR = technically pure; VL = diluted solution

+ = resistant; 0 = conditionally resistant; - = non-resistant





## Chemical Resistance

Release Date: 2017-03-22

Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor		
1144	boron trifluoride trifluorborane BF3	TR	20	+	+			+	+	+									+						
		TR	40	+	+			+	+	+										+					
		TR	60		-			+	+	+										+					
		TR	80					+	+	+															
		TR	100					+	+	+															
1145	1-bromo-2-chloroethane ClCH2CH2Br C2H4BrCl	TR	20	-	-	-	-	+	+	+		+	+	+					+	+			+	+	
		TR	40					+	+			+	+	+					+	+			+	+	
		TR	60					+	+			+	+	+					+	+			+	+	
		TR	80					+	+			+	+	+							+			+	+
		TR	100					+	+			+	+	+							+			+	+
1147	bromoethane ethyl bromide CH3CH2Br C2H5Br	TR	20	-	0	-	-	+	+	+	-	+	+	+	-	-	0	0	+	+	+	+	+	+	
		TR	40		0			+	+	+					+				+	+	+	+	+	+	
1148	bromine Br2	gf	HK	20	-	-	-	-	+	+	+	-	-	-	-	-	+	-	+	+	-	+	+		
		gf	HK	40					+	+	+									+	+		+	+	
		gf	HK	60					+	+	+										+		+	+	
		gf	HK	80					+	+	+												+	+	
		gf	HK	100					0	+	+												+	+	
		wä	GL	20	+	-	-	-	+	+	+	-	-			-	-	+	-	+	+	-	+	+	
		wä	GL	40	0				+	+	+							+		+	+		+	+	
		wä	GL	60	-				+	+	+							+		+	+		+	+	
		fl	TR	20	-	-	-	-	+	+	+	-	-	-	-	-	-	+	-	+	+	-	+	+	
		fl	TR	40					+	+	+									+	+		+	+	

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GK = low concentration; GL = cold saturated solution; H = usual in trade; HK = high concentration; TR = technically pure; VL = diluted solution

+ = resistant; 0 = conditionally resistant; - = non-resistant



## Chemical Resistance

Release Date: 2017-03-22

Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor	
<b>1149</b> tribromomethane  CHBr3	<b>bromoform</b>	TR	20	-	-	-	-	+	+															
		TR	40					+	+															
		TR	60					+	+															
		TR	80					+	+															
		TR	100					+	+															
		TR	120					+	+															
<b>1151</b>  HBr	<b>hydrobromic acid</b>	wä	10%	20	+	+	+	+	+	-	+	-	-	-	-	+	+	+	+	+	+	+	+	
		wä	10%	40	+	+	+	+	+	+	+					-	+	+	+	+	+	+	+	+
		wä	10%	60	+	+	+		+	+							0	+	+	+	+	+	+	+
		wä	10%	80					+	+										+	+	+	+	+
		wä	10%	100					+	+														
		wä	48%	20	+	+	+	+	+	+	-	-	-	-	-	-	+	+	+	+	+	+	+	+
		wä	48%	40	+	+	+		+	+							+	+	+	+	+	+	+	+
		wä	48%	60	+	+	0		+	+							0	+	+	+	+	+		
		wä	48%	80					+	+							-	0	0	+	+	+		
		wä	48%	100					+	+								-	-					
<b>1152</b>  CH2=CHCH=CH2 C4H6	<b>1,3-butadiene</b>	gf	HK	20	+	0	0	0	+	+	+		+	+	-	-	0		+					
		gf	HK	40	+	-	-	-	+	+			+	+						+				
		gf	HK	60	0				+	+			+	+						+				
		gf	HK	80					+	+														
		gf	HK	100					+	+														

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## Chemical Resistance

Release Date: 2017-03-22

Condition	Concentration	Temperature [°C]	Material																						
			PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor		
<b>1153</b> 1,4-butanediol tetramethylene glycol HO(CH <sub>2</sub> ) <sub>4</sub> OH C <sub>4</sub> H <sub>10</sub> O <sub>2</sub>	wä	10%	20	+	+	+	+	+	+	+	-	+	+	+	+	+	+	+	+	+	+	+	+	+	
	wä	10%	40	0	+	+	+	+	+	+		+	+	+	+	+	+	+	+	+	+	+	+	+	
	wä	10%	60	-	+	+	+	+	+	+		+	+	+	+	+	+	+	+	+	+	+	+	+	+
	wä	10%	80						+	+		+	+	+					+	+	+	+	+	+	+
	wä	10%	100						+	+		+	+	+						+	+	+	+	+	+
		TR	20	0	+	+	+	+	+	+	-	+	+	+		+	+	0	+	+	+	+	+	+	+
		TR	40	-	+	+	+	+	+	+		+	+	+		+	+	-	+	+	+	+	+	+	+
		TR	60		+	+	+	+	+	+		+	+	+		+			+	+	+	+	+	+	+
		TR	80						+	+		+	+	+					+	+	+	+	+	+	+
		TR	100						+	+		+	+	+						+	+	+	+	+	+
<b>1154</b> butane C <sub>4</sub> H <sub>10</sub>	gf	HK	20	+	+	+	+	+	+			+	+	+	+	-	+	0	+						
	gf	HK	40			+	+	+	+	+		+	+	+					+						
	gf	HK	60			+	+	+	+	+		+	+	+					+						
	gf	HK	80						+	+		+	+	+					+						
	gf	HK	100						+	+		+	+	+					+						
<b>1155</b> 1-butanol butyl alcohol CH <sub>3</sub> (CH <sub>2</sub> ) <sub>3</sub> OH C <sub>4</sub> H <sub>10</sub> O		TR	20	+	+	+	+	+	+	+	-	+	+	+	+	+	+	+	+	+	+	+	+	+	
		TR	40	+	+	+	+	+	+	+		+	+	+	+	+		+	+	+	+	+	+	+	
		TR	60	0	+	0	0	+	+	+		+	+	+	-	+		+	+	+	+	+	+	+	
		TR	80			0	0	+	+	+		+	+	+		0		+	+	+	+	+	+	+	
		TR	100					0	+	+		+	+	+					+	+	+	+	+	+	
<b>1156</b> 1-butanethiol 1-butyl mercaptan CH <sub>3</sub> (CH <sub>2</sub> ) <sub>3</sub> SH C <sub>4</sub> H <sub>10</sub> S		TR	20	+	0	+	+	+	+	+		+	+	+	+	+	+	+	+	+	+	+	+	+	
		TR	40	+	0	0	0	+	+	+		+	+	+	+	+	+	+	+	+	+	+	+	+	
		TR	60	+	-			+	+	+		+	+		+	0	0	+		+	+	+	+	+	
		TR	80					+	+	+		+	+							+	+	+	+	+	
		TR	100					+	+			+	+							+	+	+	+	+	

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+ = resistant; 0 = conditionally resistant; - = non-resistant



## Chemical Resistance

Release Date: 2017-03-22

Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor	
<b>1157</b> butylene  CH3CH2CH=CH2 C4H8	1-butene	20	+	-	-	-	+	+	+			+	+	+	+	0	+	0						
		40		-	-	-	+	+	+			+	+	+	+									
		60			-	-	-	+	+	+			+	+	+									
		80			-	-	-	+	+	+			+	+	+									
		100			-	-	-	+	+	+			+	+	+									
<b>1158</b>  CH3CH2CCH C4H6	1-butyne	20		+					+	+														
		40		+					+	+														
		60							+	+														
		80							+	+														
		100							+	+														
<b>1159</b> butanoic acid  CH3CH2CH2CO2H C4H8O2	butyric acid	wä 20%	20	+	+	+	+	+	+			+	+	+	-	+	0	0	+	+	+	+	+	
		wä 20%	40	0	+			+	+	+			+	+	+					+	+	+	+	+
		wä 20%	60	-	0			+	+	+			+	+	+					+	+	+	+	+
		wä 20%	80					+	+	+			+	+	+					+	+	+	+	+
		wä 20%	100					+	+	+			+	+	+					+	+	+	+	+
		TR	20	+	+	+	+	+	+	+			+	+	+	-	0	0	0	+	+	+	+	+
		TR	40	0	+			+	+	+			+	+	+					+	+	+	+	+
		TR	60	-	0			+	+	+			+	+	+					+	+	+	+	+
		TR	80					+	+	+			+	+	+					+	+	+	+	+
TR	100					0	+	+			+	+	+					+	+	+	+	+		
<b>1160</b> acetic acid butyl ester  CH3CO2(CH2)3CH3 C6H12O2	butyl acetate	TR 20	-	0	-	-		+	+	-	-	+	+	+	-	-	-	0	+	+		+	+	
		TR 40		0	-	-		+	+			-	+	+	+	-	-	-	-	+	+		+	+
		TR 60			-	-	-	+	+			-	+	+	+					+	+		+	+
		TR 80						+	+			-	+	+	+					+	+		+	+
		TR 100						+	+			-	+	+	+					+	+		+	+

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## Chemical Resistance

Release Date: 2017-03-22

Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor
<b>1161</b> butylamine 1-aminobutane CH3(CH2)3NH2 C4H11N	TR	20					+	+	+	-		+	+	+	-		-		+	+	+	+	+
	TR	40					0	+	+			+	+	+					+	+	+	+	+
	TR	60					-	+	+			+	+	+					+	+	+	+	+
	TR	80						+	+			+	+	+						+	+	+	+
<b>1162</b> butyl bromide 1-bromobutane CH3(CH2)3Br C4H9Br	TR	20	-	-	-	-	+	+	+	-	-	+	+	+					+	+	+	+	+
	TR	40					+	+	+			+	+	+					+	+	+	+	+
	TR	60					+	+	+			+	+	+					+	+	+	+	+
	TR	80					+	+	+			+	+	+					+	+	+	+	+
	TR	100					+	+	+			+	+	+					+	+	+	+	+
<b>1163</b> butyl chloride 1-chlorobutane CH3(CH2)3Cl C4H9Cl	TR	20	-				+	+	+														+
	TR	40					+	+	+														+
	TR	60					+	+	+														+
	TR	80					+	+	+														+
	TR	100					+	+	+														
	TR	120						+	+														
<b>1164</b> 4-tert-butylphenol (CH3)3CC6H4OH C10H14O	TR	20	0	0	+	+	+	+	+					+	-	-	0	-					
	TR	40	-				+	+	+														
	TR	60					+	+	+														
	TR	80					+	+	+														
	TR	100						+	+														
	TR	120						+	+														

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## Chemical Resistance

Release Date: 2017-03-22

Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor	
<b>1165</b>	<b>butyl phosphate</b> phosphoric acid butyl ester C4H9OPO(OH)2 C4H11O4P	TR	20	-					+	+										+		+	+	
		TR	40						+	+											+		+	+
		TR	60						+	+											+		+	+
		TR	80						+	+											+		+	+
		TR	100						+	+											+		+	+
		TR	120						+	+											+		+	+
<b>1166</b>	<b>cadmium acetate</b> (CH3CO2)2Cd C4H6CdO4	wä	GL	20	+	+	+	+	+	+				+					+	+	+	+	+	
		wä	GL	40	+	+	+	+	+	+					+					+	+	+	+	+
		wä	GL	60		+	+	+	+	+					+					+	+	+	+	+
		wä	GL	80					+	+					+					+	+	+	+	+
		wä	GL	100					+	+					+					+	+	+	+	+
<b>1167</b>	<b>cadmium chloride</b> CdCl2	wä	GL	20	+	+	+	+	+	+				+	+	+	+	+	+	+	+	+	+	
		wä	GL	40	+	+	+	+	+	+				+	+	+	+	+	+	+	+	+	+	+
		wä	GL	60	0	+	+	+	+	+				+	+	+	+	+	+	+	+	+	+	+
		wä	GL	80					+	+	+			+	+	+	0	+	+	+	+	+	+	+
		wä	GL	100					+	+	+			+	+	+	0	+	+	+	+	+	+	+
<b>1168</b>	<b>cadmium cyanide</b> Cd(CN)2 C2CdN2	wä	GL	20	+	+	+	+	-	+	+					+			+	+	+	+	+	
		wä	GL	40	+	+	+	+	-	+	+								+	+	+	+	+	
		wä	GL	60		+	+			+	+									+	+	+	+	+
		wä	GL	80						+	+									+	+	+	+	+
		wä	GL	100						+	+									+	+	+	+	+

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# Chemical Resistance

Release Date: 2017-03-22

Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor	
1169	cadmium sulfate	wä	GL	20	+	+	+	+	+	+	+			+		+	+		+	+	+	+	+	
		wä	GL	40	+	+	+	+	+	+		+			+		+		+	+	+	+	+	+
		wä	GL	60	0	+	+	+	+	+		+			+					+	+	+	+	+
		wä	GL	80					+	+	+				+					+	+	+	+	+
		wä	GL	100					+	+					+					+	+	+		
CdSO4																								
CdO4S																								
1170	calcium acetate	wä	GL	20	+	+	+	+	+	+	+			+		+	+		+	+	+	+	+	
		wä	GL	40	+	+	+	+	+	+		+			+		+		+	+	+	+	+	+
		wä	GL	60		+	+	+	+	+					+		+			+	+	+	+	+
		wä	GL	80					+	+	+				+					+	+	+	+	+
		wä	GL	100					+	+	+				+					+	+	+		
(CH3CO2)2Ca																								
C4H6CaO4																								
1171	calcium arsenate	wä	GL	20	+	+	+	+	+	+	+			+		+			+	+	+	+	+	
		wä	GL	40	+	+	+	+	+	+		+			+		+		+	+	+	+	+	+
		wä	GL	60		+	+		+	+	+				+		+			+	+	+	+	+
		wä	GL	80					+	+	+				+					+	+	+		
		wä	GL	100					+	+					+					+	+	+		
calcium othoarsenate																								
Ca3(AsO4)2																								
As2Ca3O8																								
1172	calcium benzoate	wä	GL	20	+	+	+	+	+	+	+			+					+	+	+	+	+	
		wä	GL	40		+	+	+	+	+	+				+					+	+	+	+	+
		wä	GL	60		+	+	+	+	+	+				+					+	+	+	+	+
		wä	GL	80					+	+	+				+					+	+	+	+	+
		wä	GL	100					+	+					+					+	+	+		
benzoic acid calcium salt																								
(C6H5CO2)2Ca																								
C14H10CaO4																								
1173	calcium bromide	wä	GL	20	+	+	+	+	+	+	+			+		+	+		+	+	+	+	+	
		wä	GL	40	+	+	+	+	+	+		+			+		+	+		+	+	+	+	+
		wä	GL	60	0	+	+	+	+	+		+			+		+	+		+	+	+	+	+
		wä	GL	80					+	+	+				+					+	+	+	+	+
		wä	GL	100					+	+					+					+	+	+		
CaBr2																								
Br2Ca																								

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GK = low concentration; GL = cold saturated solution; H = usual in trade; HK = high concentration; TR = technically pure; VL = diluted solution

+ = resistant; 0 = conditionally resistant; - = non-resistant



## Chemical Resistance

Release Date: 2017-03-22

Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor
			1174	calcium carbide	TR	20	+	+	+	+	+	+											
	calcium acetylide	TR	40		+	+	+	+	+														
	carbide	TR	60		+	+																	
	CaC2	TR	80						+	+													
	C2Ca	TR	100						+	+													
		TR	120						+	+													
1175	calcium carbonate	wä	GL	20	+	+	+	+	+	+	+			+		+			+	+	+	+	+
	lime	wä	GL	40	+	+	+	+	+	+	+			+		+			+	+	+	+	+
		wä	GL	60	+	+	+	+	+	+	+			+		+			+	+	+	+	+
	CaCO3	wä	GL	80			+	+	+	+				+		+			+	+	+		
	CCaO3	wä	GL	100					+	+	+			+					+	+	+		
1176	calcium chlorate	wä	GL	20	+	+	+	+	+	+									+	+	+	+	+
		wä	GL	40	+	+	+	+	+	+									+	+	+	+	+
		wä	GL	60	+	+	+	+	+	+									+	+	+	+	+
	Ca(ClO3)2	wä	GL	80				+	+	+									+	+	+		
	CaCl2O6	wä	GL	100				+	+	+													
1177	calcium chloride	wä	GL	20	+	+	+	+	+	+	+	0	0	+	+	+	+	+	+	+	+	+	+
		wä	GL	40	+	+	+	+	+	+	+	0	0	+	+	+	+	+	+	+	+	+	+
		wä	GL	60	0	+	+	+	+	+		-	-	+	+	+	+	+	+	+	+	+	+
		wä	GL	80			+	+	+	+	+			+	0	+	+		+	+	+	+	+
	CaCl2	wä	GL	100					+	+	+			+		0	+		+	+	+	+	+

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## Chemical Resistance

Release Date: 2017-03-22

Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor	
																							+	
1178 chromatite  CaCrO4	calcium chromate	wä	GL	20	+				+	+									+	+	+	+	+	
		wä	GL	40					+	+										+	+	+	+	+
		wä	GL	60					+	+										+	+	+	+	+
		wä	GL	80					+	+										+	+	+	+	+
		wä	GL	100					+	+										+	+	+	+	+
1179 fluorspar  CaF2	calcium fluoride	wä	GL	20	+	+	+	+	+	+	+			+		+	+		+	+	+	+	+	
		wä	GL	40	+	+	+	+	+	+		+			+		+	+		+	+	+	+	+
		wä	GL	60		+	+	+	+	+		+			+		+	+		+	+	+	+	+
		wä	GL	80					+	+	+									+	+	+		
		wä	GL	100					+	+										+	+	+		
1180 calcium bicarbonate  Ca(HCO3)2 C2H2CaO6	calcium hydrogencarbonate	wä	GL	20	+	+	+	+	+	+	+			+	+	+	+	+	+	+	+	+	+	
		wä	GL	40	+	+	+	+	+	+		+			+	+	+	+	+	+	+	+	+	+
		wä	GL	60		+	+	+	+	+		+			+	0	0	+	+	+	+	+	+	+
		wä	GL	80					+	+	+				+					+	+	+	+	+
		wä	GL	100					+	+					+					+	+	+		
1181 Ca(SH)2 H2CaS2	calcium hydrogensulfide	wä	GL	20	+	+	+	+	+	+				+					+	+	+	+	+	
		wä	GL	40		+	+	+	+	+					+					+	+	+	+	+
		wä	GL	60		+	+	+	+	+					+					+	+	+	+	+
		wä	GL	80					+	+	+									+	+	+	+	+
		wä	GL	100					+	+	+									+	+	+		
1182 lime milk slaked lime Ca(OH)2 H2CaO2	calcium hydroxide	wä	GL	20	+	+	+	+	0	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
		wä	GL	40	+	+	+	+	0	+	+		+	+	+	+	+	0	+	+	+	+	+	
		wä	GL	60	+	+	+	+	0	+	+		+	+	+	0	+	0	+	+	+	+	+	+
		wä	GL	80			+		-	+	+		+	+	+		+	0	+	+	+	+		
		wä	GL	100					-	+	+				+		0	+	+	+	+			

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## Chemical Resistance

Release Date: 2017-03-22

Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSIC	Carbon	Al2O3	Al2O3 Sensor		
																							+		
1183 Ca(OCl)2 CaCl2O2	calcium hypochlorite	wä GL 20	+	+	+	+	+	+	+	0		+	+	+	+	+	+	+	+	+	+	+	+		
		wä GL 40	+	+	+	+	+	+	+	0		+	+	+	+	+	+	+	+	+	+	+	+	+	
		wä GL 60			+	+		0	+	+			0	+	+		+		0	+	+	+	+	+	+
		wä GL 80					0	+	+						+			+		+	+	+	+	+	+
		wä GL 100						+	+						+					+	+	+	+		
1184 Ca(NO3)2 CaN2O6	calcium nitrate	wä 50% 20	+	+	+	+	+	+	+	+	+		+	+	+	+	+	+	+	+	+	+	+	+	
		wä 50% 40	+	+	+	+	+	+	+	+	+		0	+	+	+	+	+	+	+	+	+	+	+	
		wä 50% 60			+	+	+	+	+	+		+			+		+	+	+	+	+	+	+	+	+
		wä 50% 80					+	+	+		+				+			+		+	+	+	+	+	+
		wä 50% 100					+	+	+						+					+	+	+	+		
1185 oxalic acid calcium salt CaC2O4 C2CaO4	calcium oxalate	wä GL 20	+					+	+														+	+	
		wä GL 40						+	+														+	+	
		wä GL 60						+	+														+	+	
		wä GL 80						+	+														+	+	
		wä GL 100						+	+																
1186 Ca(MnO4)2 CaMn2O8	calcium permanganate	wä VL 20	+					+	+																
		wä VL 40						+	+																
		wä VL 60						+	+																
		wä VL 80						+	+																
		wä VL 100						+	+																
1187 CaO2	calcium peroxide	wä GL 20	+					+	+																
		wä GL 40	+					+	+																
		wä GL 60	+					+	+																
		wä GL 80						+	+																
		wä GL 100						+	+																

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## Chemical Resistance

Release Date: 2017-03-22

Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor	
<b>1188</b>	<b>calcium dihydrogenphosphate</b>	wä	GL	20	+	+	+	+	+	+	+			+		+	+		+	+	+	+	+	
		wä	GL	40	+	+	+	+	+	+		+			+		+	+		+	+	+	+	+
		wä	GL	60		+	+	+	+	+					+			+		+	+	+	+	+
		wä	GL	80					+	+					+					+	+	+	+	+
		wä	GL	100					+	+					+					+	+	+	+	+
Ca(H <sub>2</sub> PO <sub>4</sub> ) <sub>2</sub> H <sub>4</sub> CaO <sub>8</sub> P <sub>2</sub>																								
<b>1189</b>	<b>calcium sulfate</b>	wä	GL	20	+	+	+	+	+		+			+		+	+		+	+	+	+	+	
		wä	GL	40	+	+	+	+	+	+		+			+		+	+		+	+	+	+	+
		wä	GL	60		+	+	+	+	+		+			+		+	+		+	+	+	+	+
		wä	GL	80			+	+	+	+					+		+			+	+	+	+	+
		wä	GL	100					+	+					+					+	+	+	+	+
gypsum CaSO <sub>4</sub> CaO <sub>4</sub> S																								
<b>1190</b>	<b>calcium sulfide</b>	wä	GL	20	+	+	+	+	0	+	+			+					+	+	+	+	+	
		wä	GL	40	+	+	+	+	0	+	+				+					+	+	+	+	+
		wä	GL	60		+	+	+		+	+				+					+	+	+	+	+
		wä	GL	80						+	+										+	+	+	+
		wä	GL	100						+	+										+	+	+	+
CaS																								
<b>1191</b>	<b>calcium sulfite</b>	wä	GL	20	+	+	+	+	+	+				+			+		+	+	+	+	+	
		wä	GL	40	+	+	+	+	+	+					+			+		+	+	+	+	+
		wä	GL	60		+	+	+	+	+					+			+		+	+	+	+	+
		wä	GL	80					+	+					+					+	+	+	+	+
		wä	GL	100						+	+				+					+	+	+	+	+
CaSO <sub>3</sub> CaO <sub>3</sub> S																								
<b>1192</b>	<b>calcium hydrogensulfite</b>	wä	GL	20	+	+	+	+	+	+				+			+		+	+	+	+	+	
		wä	GL	40	+	+	+	+	+	+					+			+		+	+	+	+	+
		wä	GL	60		+	+	+		+	+				+					+	+	+	+	+
		wä	GL	80						+	+				+					+	+	+	+	+
		wä	GL	100						+	+				+					+	+	+	+	+
calcium bisulfite Ca(HSO <sub>3</sub> ) <sub>2</sub> H <sub>2</sub> CaO <sub>6</sub> S <sub>2</sub>																								

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## Chemical Resistance

Release Date: 2017-03-22

Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor	
1193	(±)-camphor	TR	20	-	-	0	0	+	+	+		+	+	+		-	+	-	+					
		TR	40					+	+	+		+	+	+					+					
		TR	60					+	+	+		+	+	+					+					
		TR	80					+	+	+		+	+	+					+					
		TR	100					+	+	+		+	+	+					+					
C10H16O																								
1194	camphor oil	TR	20	-	-	-	-	+	+	+		+	+	+	-	-	+	0	+	+	+	+	+	
		TR	40					+	+	+		+	+	+					+	+	+	+	+	
		TR	60					+	+	+		+	+	+					+	+	+	+	+	
		TR	80					+	+	+		+	+	+					+	+	+	+	+	
		TR	100					+	+	+		+	+	+					+	+	+	+	+	
C6H11NO																								
1195	e-caprolactam hexahydro-2H-azepin-2-one	TR	20																				+	+
		TR	40																				+	+
		TR	60																				+	+
		TR	80																					
		TR																						
C6H10O2																								
1196	e-caprolactone 6-hydroxyhexanoic acid lactone 6-hexanolide	TR	20	-				+	+			+	+	+							+	+	+	
		TR	40					+	+			+	+	+							+	+	+	
		TR	60					+	+			+	+	+							+	+	+	
		TR	80					+	+			+	+	+							+	+	+	
		TR	100					+	+			+	+	+							+	+	+	
C12H9N																								
1197	carbazole dibenzo[b,d]pyrrole 9-azafluorene	TR	20		+	+	+		+	+													+	+
		TR	40		+	+	+		+	+													+	+
		TR	60		+	+	+		+	+													+	+
		TR	80						+	+														
		TR	100						+	+														

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Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor
			1198	carbolineum	20	+	+	+	+	+	+	+				+		+	+	+			
		40						+	+														
		60						+	+														
		80						+	+														
		100						+	+														
1199	carbon disulfide	TR	0	0	-	-	+	+	+	+	-	+	+	+	-	-	+	-	+	+	+	+	+
		TR	40	-	-	-	+	+	+	0		+	+	+					+	+	+	+	+
	CS2																						
1200	Caro's acid	wä	VL	20	+	-	-	+	+	+									+	+		+	+
	peroxosulfuric acid	wä	VL	40				+	+										+	+		+	+
	peroxomonosulfuric acid	wä	VL	60				+	+										+	+		+	+
	H2SO5	wä	VL	80				+	+											+		+	+
	H2O5S	wä	VL	100				+	+											+			
1201	quinine	wä	GL	20	+	+	+	+	+													+	+
		wä	GL	40		+	+	+	+													+	+
		wä	GL	60		+	+	+	+													+	+
		wä	GL	80				+	+														
	C20H24N2O2	wä	GL	100				+	+														
1202	quinoline		TR	20	-	-	-	-	+	+												+	+
	1-azanaphthalene		TR	40				+	+													+	+
			TR	60				+	+													+	+
			TR	80				+	+														
	C9H7N		TR	100				+	+														

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Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	AI2O3	AI2O3 Sensor
<b>1204</b> chloroacetaldehyde chloroethanal	TR	20	-					+	+										+				
	TR	40						+	+										+				
	TR	60						+	+										+				
	TR	80						+	+														
	TR	100						+	+														
<b>1205</b> 1-chloro-2-propanone monochloroacetone CICH <sub>2</sub> COCH <sub>3</sub> C <sub>3</sub> H <sub>5</sub> ClO	TR	20	-					+	+	-		+	+	+	-		0	-	+	+	+	+	+
	TR	40						+	+			+	+	+			0		+	+	+	+	+
	TR	60						+	+			+	+	+			0			+	+	+	+
	TR	80						+	+			+	+	+						+	+		
	TR	100						+	+			+	+	+						+	+		
<b>1206</b> chloral hydrate trichloroacetaldehyde hydrate	TR	20	-	+	0	0	-	+	+						-	0	0	+					
	TR	40		+	0	0		+	+						-	0	0	+					
	TR	60		+	-	-		+	+							0	0	+					
	TR	80						+	+														
	TR	100			-	-		+	+														
<b>1207</b> chloramine B N-chlorobenzenesulfonic acid amide sodium sal	wä	VL	20	+	+	+	+	+	+			+	+	+	+	+	-	+	+	+	+	+	+
	wä	VL	40					+	+			+	+	+					+	+	+	+	+
	wä	VL	60					+	+			+	+	+					+	+	+	+	+
	wä	VL	80					+	+					+						+	+	+	+
	wä	VL	100					+	+					+						+	+		
<b>1208</b> chlorobenzene monochlorobenzene	TR	20	-	0	0	0	+	+	+	-	-	+	+	+	-	-	-	-	+	+	+	+	+
	TR	40	-	-	-	-	+	+	+			+	+	+						+	+	+	+
	TR	60	-	-	-	-	+	+	+			+	+	+						+	+	+	+
	TR	80					0	+	+			+	+	+						+	+	+	+
	TR	100			-	-	0	+	+			+	+	+						+	+	+	+

**Abbreviations:** fe = humid; fl = liquid; gf = gaseous; tr = dry; wä = aqueous solution

GK = low concentration; GL = cold saturated solution; H = usual in trade; HK = high concentration; TR = technically pure; VL = diluted solution

+ = resistant; 0 = conditionally resistant; - = non-resistant



## Chemical Resistance

Release Date: 2017-03-22

	Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor			
1209	wä	sodium hypochlorite	5%	20	+	+	+	+	+	+			-	-	+	-	+	+	+	+	+	-	+	+			
			5%	40	+	0	0	0	0	+	+					+	+	0	+		+	+	+	+	+		
			5%	60	0	-	-	-	0	+	+											+	+				
			5%	80					-	+	+											+	+				
			5%	100						+	+												+				
			12,5%	20	+	0	0	0	+	+	+	-			-	-	+	-	+	+	+	+	+	-	+	+	
			12,5%	40	+	0	-	-	0	+	+						+		-	+		+	+		+	+	
			12,5%	60	0				-	+	+												+	+			
			12,5%	80						+	+												+	+			
			12,5%	100						+	+												+				
			15%	20	+	-	-	-	+	+	+	-			-	-	+	-	0	+	+	+	+	+	-	+	+
			15%	40	+				0	+	+						+		-	+		+	+	+		+	+
			15%	60					-	+	+												+	+			
			15%	80						+	+												+	+			
			15%	100						+	+												+				
1210	TR	bromochloromethane	20	-	-	-	-		+	+			-	+	+	+						+	+	+	+		
			40							+	+				+	+	+						+	+	+	+	
			60							+	+				+	+	+						+	+	+	+	
CH2BrCl																											

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## Chemical Resistance

Release Date: 2017-03-22

Condition	Concentration	Temperature [°C]	Material																						
			PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor		
<b>1211</b> monochloroacetic acid  ClCH <sub>2</sub> CO <sub>2</sub> H C <sub>2</sub> H <sub>3</sub> ClO <sub>2</sub>	chloroacetic acid	wä 33%	20	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
		wä 33%	40	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
		wä 33%	60	0	+	+		+	+	+											+	+	+		
		wä 33%	80					+	+	+															
		wä 33%	100						+	+															
		wä 50%	20	+	+	+	+	+	+	+		-	-	+	-	0	-	0	+	+	+	+	+	+	+
		wä 50%	40	+	+	+	+	0	+	+				+					+	+	+	+	+	+	+
		wä 50%	60	0	+	+		-	+	+				+							+	+	+		
		wä 50%	80						+	+															
		wä 50%	100						+	+															
		wä 85%	20	+	+	+	+	+	+	+		-	-	+	-	0	-	0	+	+	+	+	+	+	+
		wä 85%	40	+	+	+	+	0	+	+				+						+	+	+	+	+	+
		wä 85%	60	0	+	+		-	+	+				+							+	+	+		
		wä 85%	80						+	+															
		wä 85%	100						+	+															
<b>1212</b> ethylene chlorhydrin  ClCH <sub>2</sub> CH <sub>2</sub> OH C <sub>2</sub> H <sub>5</sub> ClO	chloroethanol	TR	20	-	+	0	0	+	+	+	-	+	+	+	-	0	-	0		+		+	+		
		TR	40	-	+			0	+	+											+		+	+	
		TR	60	-	+	0	0	0	+	+												+		+	+
		TR	80					-	+	+												+			
		TR	100						+	+												+			

**Abbreviations:** fe = humid; fl = liquid; gf = gaseous; tr = dry; wä = aqueous solution

GK = low concentration; GL = cold saturated solution; H = usual in trade; HK = high concentration; TR = technically pure; VL = diluted solution

+ = resistant; 0 = conditionally resistant; - = non-resistant





## Chemical Resistance

Release Date: 2017-03-22

	Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor			
				0	-	-	-	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
Cl <sub>2</sub>	gf, tr	chlorine	20	0	-	-	-	+	+	+					+	-	-	+	0	+							
			20	0	-	-	-	0	+	+				-	-	+	-	-	-	0	+						
			40	0					+	+	+					+						+					
			40						0	+	+					+							+				
			60	-					+	+	+					+							+				
			60						-	+	+					+							+				
			80							+	+					+							+				
			80								+	+				+											
			100								+	+															
			100								+	+					+										
CaCl(OCl) + Ca(OH) <sub>2</sub> CaCl <sub>2</sub> O	wä	chloride of lime	20	+	+	+	+	+	+	+	0	+	+	+	+	+	+	+	+	+	+	+	+	+			
			40	+	+	+	+	+	+	+	0	+	+	+	+	+	+	+	+	+	+	+	+	+	+		
			60		+	+	+	0	+	+			0	0				+	+	0	+	+	+	+	+		
			80					0	+	+									+			+	+	+			
			100						+	+												+	+	+			
4-chloro-3-methylphenol 1-chloro-4-hydroxy-2-methylbenzene C <sub>10</sub> H <sub>7</sub> ClO C <sub>7</sub> H <sub>7</sub> ClO	TR	4-chloro-m-cresol	20	-	-	-	-		+	+																	
			40						+	+																	
			60						+	+																	
			80						+	+																	
			100						+	+																	
CHCl <sub>3</sub>	TR	chloroform	20	-	-	-	-	+	+	+	-	-	+	+	+	-	-	0	-	+	+	+	+	+			
			40	-	-	-	-	+	+	+	-	-	+	+	+						+	+	+	+			
			60	-	-	-	-	+	+	+	-	-	+	+	+							+	+	+	+		

**Abbreviations:** fe = humid; fl = liquid; gf = gaseous; tr = dry; wä = aqueous solution

GK = low concentration; GL = cold saturated solution; H = usual in trade; HK = high concentration; TR = technically pure; VL = diluted solution

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## Chemical Resistance

Release Date: 2017-03-22

Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	AI2O3	AI2O3 Sensor			
1218	chlorophenol (2-, 3- a. 4-)	TR	20	+					+	+																
		TR	40	+					+	+																
		TR	60						+	+																
		TR	80						+	+																
		TR	100						+	+																
C1C6H4OH																										
C6H5ClO																										
1219	chloric acid	wä	10%	20	+	+	+	+	+	+	-	-	0	0												
		wä	10%	40	+	+	0	0	+	+	+									+	+					
		wä	10%	60	0		-	-		+	+															
		wä	10%	80						+	+															
		wä	10%	100						+	+															
		wä	20%	20	+	0	0	0	+	+	+			-	-						+	+				
		wä	20%	40	+		-	-	+	+	+										+	+				
		wä	20%	60	-					+	+															
		wä	20%	80						+	+															
		wä	20%	100						+	+															
1220	chlorosulfonic acid	TR	20	-	-	-	-	0	+	+	-	-								+	+	-	+			
		TR	40						-	+	+										+	+	-	+		
		TR	60							+	+											+				
		TR	80							+	+											+				
		TR	100							+	+											+				
CISO3H																										
HCISO3																										
1221	chlorotoluene (2-, 3- a. 4-)	TR	20	-	-	-	-		+	+	-	-	+	+	+	-	-	-	-	+	+	+	+	+		
		TR	40						+	+			+	+	+					+	+	+	+	+		
		TR	60						+	+			+	+	+					+	+	+	+	+		
		TR	80						+	+			+	+	+					+	+	+	+	+		
		TR	100						+	+			+	+	+					+	+	+	+	+		
CH3C6H4Cl																										
C7H7Cl																										

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## Chemical Resistance

Release Date: 2017-03-22

Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor
1222 trifluorovinyl chloride  ClCF=CF2 C2ClF3	TR	20	+	-	-	-	-	+	+														
	TR	40	+	-	-	-	-	+	+														
	TR	60	+	-	-	-	-	+	+														
	TR	80						+	+														
	TR	100						+	+														
1224   Cl2	GL	20	0	0	0	0	+	+	+	-		+	+	+	-	0	+	-	+	+		+	+
	GL	40	0	0			+	+	+										+	+		+	+
	GL	60					+	+	+										+	+		+	
	GL	80					+	+	+											+			
	GL	100					+	+	+											+			
1225   HCl	HK	20	+	+	+	+	+	+	+						0	+	+	0	+				
	HK	40	+	+	+	+	+	+	+						-	+	+	0	+				
	HK	60	0	+	+	+	+	+	+							+	+	-	+				
	HK	80					+	+	+														
	HK	100					+	+	+														
	HK	120						+	+														
1226 chromium(III) potassium sulfate chromium alum CrK(SO4)2 CrKO8S2	GL	20	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
	GL	40	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
	GL	60	+	+	+	+	+	+	+					+	+	+	+	+	+	+	+	+	+
	GL	80					+	+	+					+	+	+	+		+	+	+	+	+
	GL	100						+	+					+	+	+		+	+	+	+	+	+

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## Chemical Resistance

Release Date: 2017-03-22

Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor	
1227	chromium(III) chloride	wä	GL	20	+	+	+	+	+	+	+			+		+	+		+	+	+	+	+	
		wä	GL	40	+	+	+	+	+	+		+			+		+	+		+	+	+	+	+
		wä	GL	60	+	+	+	+	+	+					+		+	+		+	+	+	+	+
		wä	GL	80					+	+	+					+				+	+	+	+	+
		wä	GL	100					+	+	+					+				+	+	+	+	+
CrCl3	Cl3Cr																							
1228	chromium(III) fluoride	wä	GL	20	+	+	+	+	+	+				+			+		+	+	+	+	+	
		wä	GL	40	+	+	+	+	+	+					+		+		+	+	+	+	+	+
		wä	GL	60		+	+		+	+					+		+		+	+	+	+	+	+
		wä	GL	80					+	+	+				+					+	+	+	+	+
		wä	GL	100					+	+					+					+	+	+	+	+
CrF3																								
1229	chromium(III) hydroxide	wä	GL	20	+	+	+	+	+	+				+		+			+	+	+	+	+	
		wä	GL	40		+	+	+	+	+					+		+		+	+	+	+	+	+
		wä	GL	60		+	+	+	+	+					+		+		+	+	+	+	+	+
		wä	GL	80					+	+					+					+	+	+	+	+
		wä	GL	100					+	+					+					+	+	+	+	+
Cr(OH)3	H3CrO3																							
1230	chromium(III) nitrate	wä	GL	20	+	+	+	+	+	+				+		+	+		+	+	+	+	+	
		wä	GL	40	+	+	+	+	+	+		+			+		+	+		+	+	+	+	+
		wä	GL	60	0	+	+	+	+	+					+		+			+	+	+	+	+
		wä	GL	80					+	+	+				+					+	+	+	+	+
		wä	GL	100					+	+					+					+	+	+	+	+
Cr(NO3)3	CrN3O9																							
1231	chromium(III) oxide		TR	20	+	+	+	+	+	+	-					+	+							
			TR	40	+	+	+	+	+	+						+	+							
			TR	60		+	+	+	+	+						+	+							
			TR	80					+	+	+					+	+							
			TR	100					+	+	+													
Cr2O3																								

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## Chemical Resistance

Release Date: 2017-03-22

Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor
			1232	chromic acid	wä	20%	20	+	+	+	+	+	+	+	-	-	-	-	0	+	0	+	+
		wä	20%	40	+	+	0	0	+	+	+					0	+	0	+	+	+	+	+
		wä	20%	60	0	0	-	-	+	+	+					0	+	0	+	+	+		
		wä	20%	80					+	+	+								+	+			
		wä	20%	100					+	+													
		wä	30%	20	+	+	0	0	+	+	+	-	-	-	-	0	+	0	+	+			+
		wä	30%	40	+	0	-	-	+	+	+					0	+	0	+	+			+
		wä	30%	60	0	-			+	+	+					0	+	0	+	+			
		wä	30%	80					+	+	+								+	+			
		wä	30%	100					+	+													
		wä	50%	20	+	+	0	0	+	+	+	-	-	-	-	0	+	0	+	+			+
		wä	50%	40	+	0	-	-	+	+	+	-				0	+	0	+	+			+
		wä	50%	60	0	-			+	+	+	-				0	+	0	+	+			
		wä	50%	80					+	+	+								+	+			
		wä	50%	100					+	+													
		wä	60%	20	+	0	0	0	+	+	+	-	-	-	-	0	+	0	+	+			+
		wä	60%	40	+	-	-	-	+	+	+					0	+	0	+	+			+
		wä	60%	60					+	+	+					0	+	0	+	+			
		wä	60%	80					+	+									+	+			
		wä	60%	100					+	+													
1233	chromosulfuric acid			20	+	-	-	-	+	+	+	-	-	-					+	+			+
				40					+	+	+								+	+			+
				60					+	+									+	+			
				80					+	+									+				
				100					+	+													

CrO3 + H2O  
H2CrO4

K2CrO4/H2SO4/H2O = 250g/200g/1000g

**Abbreviations:** fe = humid; fl = liquid; gf = gaseous; tr = dry; wä = aqueous solution

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+ = resistant; 0 = conditionally resistant; - = non-resistant



## Chemical Resistance

Release Date: 2017-03-22

Condition	Concentration	Temperature [°C]	Material																					
			PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor	
1234	chromosulfuric acid	20	+					+	+	+	-								+	+		+		
		40						+	+	+										+	+		+	
		60							+	+										+	+			
		80							+	+										+				
		100							+	+														
K <sub>2</sub> CrO <sub>4</sub> /H <sub>2</sub> SO <sub>4</sub> /H <sub>2</sub> O = 340g/10g/1000g		20	+					+	+	+	-								+	+		+		
		40						+	+	+									+	+		+		
		60							+	+									+	+				
		80							+	+									+					
		100							+	+														
1235	chromosulfuric acid	20	+					+	+	+	-								+	+		+		
		40						+	+	+									+	+		+		
		60							+	+									+	+				
		80							+	+									+					
		100							+	+														
K <sub>2</sub> CrO <sub>4</sub> /H <sub>2</sub> SO <sub>4</sub> /H <sub>2</sub> O = 400g/10g/100g		20	+					+	+	+	-								+	+		+		
		40						+	+	+									+	+		+		
		60							+	+									+	+				
		80							+	+									+					
		100							+	+														
1236	chromosulfuric acid	20	+					+	+	+	-								+	+		+		
		40						+	+	+									+	+		+		
		60							+	+									+	+				
		80							+	+									+					
		100							+	+														
K <sub>2</sub> CrO <sub>4</sub> /H <sub>2</sub> SO <sub>4</sub> /H <sub>2</sub> O = 400g/10g/1000g		20	+					+	+	+	-								+	+		+		
		40						+	+	+									+	+		+		
		60							+	+									+	+				
		80							+	+									+					
		100							+	+														
1237	chromosulfuric acid	20	+	-	-	-		+	+	+	-	-	-	-	0	+	0	+	+		+			
		40	0					+	+	+					0	+	0	+	+		+			
		60						+	+	+						+			+	+				
		80					0	+	+										+					
		100						+	+															
K <sub>2</sub> CrO <sub>4</sub> /H <sub>2</sub> SO <sub>4</sub> /H <sub>2</sub> O = 500/150/350g		20	+	-	-	-		+	+	+	-	-	-	-	0	+	0	+	+		+			
		40	0					+	+	+					0	+	0	+	+		+			
		60						+	+	+						+			+	+				
		80					0	+	+										+					
		100						+	+															

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## Chemical Resistance

Release Date: 2017-03-22

Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor
<b>1238</b> citric acid 2-hydroxy-1,2,3-propanetricarboxylic acid HOC(CO <sub>2</sub> H)(CH <sub>2</sub> CO <sub>2</sub> H) <sub>2</sub> C <sub>6</sub> H <sub>8</sub> O <sub>7</sub>	wä	10%	20	+	+	+	+	+	+		+	+	+	+	0	+	+	+	+	+	+	+	+
	wä	10%	40	+	+	+	+	+	+		+	+	+	+	-	+	+	+	+	+	+	+	+
	wä	10%	60	+	+	+	+	+	+			+	+	+		+	+	+	+	+	+		
	wä	10%	80			+	+	+	+								+		+	+	+		
	wä	10%	100					+	+										+	+	+		
	wä	GL	20	+	+	+	+	+	+		+	+	+	+	0	+	+	+	+	+	+	+	+
	wä	GL	40	+	+	+	+	+	+			+	+	+	-	+	+	+	+	+	+	+	+
	wä	GL	60	+	+	+	+	+	+			-	0	+		+	+	+	+	+	+		
	wä	GL	80			+	+	+	+								+		+	+	+		
	wä	GL	100					+	+										+	+			
<b>1239</b> crotonaldehyde trans-2-butenal CH <sub>3</sub> CH=CHCHO C <sub>4</sub> H <sub>6</sub> O	TR	20	-	+	+	+	+	+	+	-		+	+	+	+	+	+	+	+	+	+	+	+
	TR	40		+			+	+	+			+	+	+					+	+		+	+
	TR	60		0			0	+	+			+	+	+					+	+		+	+
	TR	80						+	+			+	+	+						+		+	+
	TR	100						+	+			+	+	+						+		+	+
<b>1241</b> crotonic acid trans-2-butenic acid CH <sub>3</sub> CH=CHCO <sub>2</sub> H C <sub>4</sub> H <sub>6</sub> O <sub>2</sub>	TR	20	+	-	-	-	+	+	+											+		+	+
	TR	40					+	+												+		+	+
	TR	60					+	+												+		+	
	TR	80					+	+												+		+	
	TR	100					+	+												+			
<b>1242</b> cumene 2-phenylpropane isopropylbenzene C <sub>6</sub> H <sub>5</sub> CH(CH <sub>3</sub> ) <sub>2</sub> C <sub>9</sub> H <sub>12</sub>	TR	20	-	-	-	-	+	+	+		-	+	+	+	-	-	+	-	+	+		+	+
	TR	40					+	+	+			+	+	+					+	+		+	+
	TR	60					+	+	+			+	+	+					+	+		+	+
	TR	80					+	+				+	+	+						+		+	+
	TR	100					+	+				+	+	+						+		+	+

**Abbreviations:** fe = humid; fl = liquid; gf = gaseous; tr = dry; wä = aqueous solution

GK = low concentration; GL = cold saturated solution; H = usual in trade; HK = high concentration; TR = technically pure; VL = diluted solution

+ = resistant; 0 = conditionally resistant; - = non-resistant



## Chemical Resistance

Release Date: 2017-03-22

Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor		
1243	cyanamide	TR	20	-	-	-	-	+	+																
		TR	40					+	+																
		TR	60					+	+																
		TR	80					+	+																
		TR	100					+	+																
H2NCN																									
CH2N2																									
1244	cyanoacetic acid ethyl ester ethyl cyanoacetate	TR	20	-	-	-	-	+	+			+	+	+					+	+			+	+	
		TR	40					+	+			+	+	+					+	+			+	+	
		TR	60					+	+			+	+	+					+	+			+	+	
		TR	80					+	+			+	+	+						+			+	+	
		TR	100					+	+			+	+	+						+			+	+	
NCCH2CO2C2H5																									
C5H7NO2																									
1246	cyclohexane hexahydrobenzene	TR	20	-				+	+	+	0	+	+	+	+	-	+	-	+	+			+	+	
		TR	40					+	+	+	0		+	+	+				+	+			+	+	
		TR	60					+	+	+			+	+	+				+	+			+	+	
		TR	80					+	+	+			+	+	+				+	+			+	+	
C6H12																									
1247	cyclohexanol	TR	20	+	+	+	+	+	+			+	+	+	-	-		-	+	+			+	+	
		TR	40	+	+	+	+	+	+			+	+	+				-	+	+			+	+	
		TR	60	0	+	0	0	0	+	+			+	+	+					+	+			+	+
		TR	80					0	+	+			+	+	+					+	+			+	+
		TR	100					-	+	+			+	+	+					+	+			+	+
C6H11OH																									
C6H12O																									
1248	cyclohexanone	TR	20	-	+	+	+	+	+	-	-	+	+	+	-	-	-	-	+	+			+	+	
		TR	40		0	0	0	0	+	+			-	+	+					+	+			+	+
		TR	60		0	0	0	0	+	+			-	+	+					+	+			+	+
		TR	80					-	+	+			-	+	+					+	+			+	+
		TR	100					+	+			-	+	+	+					+	+			+	+
C6H10O																									

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## Chemical Resistance

Release Date: 2017-03-22

Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor	
1249	cyclohexene 1,2,3,4-tetrahydrobenzene  C6H10	TR	20	-	-	-	-	+	+			+	+	+	-	-			+	+		+	+	
		TR	40					+	+			+	+	+					+	+		+	+	
		TR	60					+	+			+	+	+					+	+		+	+	
		TR	80					+	+			+	+	+						+	+		+	+
1250	cyclohexylamine aminocyclohexane cyclohexanamine C6H11NH2 C6H13N	TR	20	-	-	-	-	+	+			+	+	+		-	-		+	+		+	+	
		TR	40					+	+			+	+	+					+	+		+	+	
		TR	60					+	+			+	+	+					+	+		+	+	
		TR	80					+	+			+	+	+						+	+		+	+
		TR	100					+	+			+	+	+							+	+		+
1252	cymene (o-, m- a. p-) Isopropylmethylbenzene (o-, m- a. p-)  CH3C6H4CH(CH3)2 C10H14	TR	20	-	-	-	-	+	+														+	+
		TR	40					+	+														+	+
		TR	60					+	+														+	+
		TR	80					+	+														+	+
		TR	100					+	+														+	+
1253	L-cysteine (R)-2-amino-3-mercaptopropionic acid cys HSCH2CH(NH2)CO2H C3H7NO2S	TR	20			+	+	+	+															
		TR	40					+	+															
		TR	60					+	+															
		TR	80					+	+															
		TR	100					+	+															
1254	L-cystine  [-SCH2CH(NH2)CO2H]2 C6H12N2O4S2	TR	20			+	+	+	+															
		TR	40					+	+															
		TR	60					+	+															
		TR	80					+	+															
		TR	100					+	+															

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## Chemical Resistance

Release Date: 2017-03-22

Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor	
<b>1255</b> DDT 1,1-bis(4-chlorophenyl)-2,2,2-trichloroethane dichlorodiphenyltrichloroethane (C1C6H4)2CHCCl3 C14H9Cl5	TR	20	+	+	+	+		+	+															
	TR	40		+	+	+		+	+															
	TR	60		+	+	+		+	+															
	TR	80						+	+															
	TR	100						+	+															
<b>1256</b> decaline decahydronaphthalene  C10H18	TR	20	+	+	-	-		+	+			+	+	+	-	-	+	-	+	+		+	+	
	TR	40	+	0				+	+			+	+	+		0			+	+		+	+	
	TR	60	+	0				+	+			+	+	+			-		+	+		+	+	
	TR	80						+	+			+	+	+					+	+		+	+	
	TR	100						+	+			+	+	+						+		+	+	
	TR	120						+	+			+	+	+						+		+	+	
<b>1257</b> dextran  (C6H10O5)x C6H10O5	wä	VL	20	+	+	+	+	+	+		+	+	+	+	+	+	+	+	+	+	+	+	+	
	wä	VL	40	+	+	+	+	+	+		+	+	+	+	+	+	+	+	+	+	+	+	+	
	wä	VL	60	0	+	+	+	+	+		+	+	+	+	+	+	+	+	+	+	+	+	+	
	wä	VL	80			+	+	+	+			+	+	+	+	+	+	+	+	+	+	+	+	
	wä	VL	100					+	+			+	+	+		+		+	+	+	+			
	wä	GL	20	+	+	+	+	+	+		+	+	+	+	+	+	+	+	+	+	+	+	+	
	wä	GL	40	+	+	+	+	+	+		+	+	+	+	+	+	+	+	+	+	+	+	+	
	wä	GL	60	0	+	+	+	+	+		+	+	+	+	+	+	+	+	+	+	+	+	+	
	wä	GL	80			+	+	+	+			+	+	+	+	+	+	+	+	+	+	+	+	
	wä	GL	100					+	+			+	+	+		+		+	+	+	+	+	+	

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## Chemical Resistance

Release Date: 2017-03-22

Condition	Concentration	Temperature [°C]	Material																						
			PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor		
1258 starch gum  (C6H10O5) <sub>n</sub> • xH2O C6H10O5	dextrin	wä	VL	20	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
		wä	VL	40	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
		wä	VL	60	0	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
		wä	VL	80			+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
		wä	VL	100					+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
		wä	GL	20	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
		wä	GL	40	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
		wä	GL	60	0	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
		wä	GL	80			+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
		wä	GL	100					+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
1259 dextrose  C6H12O6	D(+)-glucose	wä	VL	20	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
		wä	VL	40	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
		wä	VL	60	0	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
		wä	VL	80			+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
		wä	VL	100					+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
		wä	GL	20	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
		wä	GL	40	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
		wä	GL	60	0	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
		wä	GL	80			+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
		wä	GL	100					+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
1260 dibutyl ether  CH3(CH2)3O(CH2)3CH3 C8H18O	butyl ether		TR	20	0	+	0	0	0	+	+			+	+	+	0	-	-	0	+	+		+	
			TR	40	-	0	-	-		+	+			+	+	+	-	-			+	+		+	
			TR	60	-	-	-	-		+	+			+	+	+	-	-			+	+		+	
			TR	80						+	+			+	+	+						+	+		+
			TR	100						+	+			+	+	+						+	+		+
			TR	120						+	+			+	+	+						+	+		+

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## Chemical Resistance

Release Date: 2017-03-22

Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor	
<b>1261</b> dibutyl phthalate phthalic acid dibutyl ester C <sub>6</sub> H <sub>4</sub> [CO <sub>2</sub> (CH <sub>2</sub> ) <sub>3</sub> CH <sub>3</sub> ] <sub>2</sub> C <sub>16</sub> H <sub>22</sub> O <sub>4</sub>	TR	20	-	+	+	+	+	+	+		-	+	+	+	-	-	0	-	+	+		+	+	
	TR	40	-	0	0	0	0	+	+			+	+	+					+	+		+	+	
	TR	60	-	0	0	0	0	+	+			+	+	+					+	+		+	+	
	TR	80			-	-	-	+	+			+	+	+						+	+		+	+
	TR	100					-	+	+			+	+	+							+		+	
	TR	120					-	+	+			+	+	+						+			+	
<b>1262</b> dichlorobenzene (o-, m- a. p-) C <sub>12</sub> H <sub>4</sub> Cl <sub>2</sub> C <sub>6</sub> H <sub>4</sub> Cl <sub>2</sub>	TR	20	-	-	-	-	+	+	+		-	+	+	+	-	-	+	-	+	+		+	+	
	TR	40					+	+	+			+	+	+					+	+		+	+	
	TR	60					+	+	+			+	+	+					+	+		+	+	
	TR	80				0	+	+				+	+	+					+	+		+	+	
	TR	100					+	+				+	+	+					+	+		+		
	TR	120					+	+				+	+	+					+	+		+		
<b>1263</b> dichloroacetic acid C <sub>12</sub> H <sub>2</sub> Cl <sub>2</sub> O <sub>2</sub> H C <sub>2</sub> H <sub>2</sub> Cl <sub>2</sub> O <sub>2</sub>	wä	50%	20	+	+	+	+	+	+			-		-		0	+	+	+					
	wä	50%	40	+	+	+	+	+	+							0	+	+	+					
	wä	50%	60	-	+	+		+	+								-	0	+	+				
	wä	50%	80					+	+											+				
	wä	50%	100					+	+															
	TR	20	-	-	-	-	+	+	+			-		-		0	+	+	+					
	TR	40					+	+	+							-	0	+	+					
	TR	60						+	+									-	+	+				
	TR	80						+	+											+				
	TR	100						+	+															
	TR	120						+	+															

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## Chemical Resistance

Release Date: 2017-03-22

Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSIC	Carbon	Al2O3	Al2O3 Sensor		
1264	1,2-dichloroethane ethylene chloride  ClCH <sub>2</sub> CH <sub>2</sub> Cl C <sub>2</sub> H <sub>4</sub> Cl <sub>2</sub>	TR	20	-	-	-	-	+	+	+	-	+	+	+	-	-	0	-	+	+		+	+		
		TR	40	-	-	-	-	+	+	+	-	+	+	+	-	-			+	+		+	+		
		TR	60	-	-	-	-	+	+	+	-	+	+	+	-	-				+	+		+	+	
		TR	80	-	-	-	-	+	+	+	-	+	+	+	-	-					+		+	+	
1265	1,1-dichloroethene 1,1-dichloroethylene vinylidene dichloride CH <sub>2</sub> =CCl <sub>2</sub> C <sub>2</sub> H <sub>2</sub> Cl <sub>2</sub>	TR	20	-	-	-	-	+	+	+	-	+	+	+	-	-	0	-	+	+		+	+		
1266	dichloromethane methylene chloride  CH <sub>2</sub> Cl <sub>2</sub>	TR	20	-	-	-	-	+	+	-	-	+	+	+	-	-	0	-	+	+		+	+		
		TR	40	-	-	-	-	+	+	-	-	+	+	+	-	-			+	+		+	+		
1267	1,2-dichloropropane propylene chloride  CH <sub>3</sub> CHClCH <sub>2</sub> Cl C <sub>3</sub> H <sub>6</sub> Cl <sub>2</sub>	TR	20	-	-	-	-	+	+	-	+	+	+	-	-			-	+	+		+	+		
		TR	40					+	+			+	+	+					+	+		+	+		
		TR	60					+	+			+	+	+					+	+		+	+		
		TR	80					+	+			+	+	+						+	+		+	+	
		TR	100					+	+			+	+	+							+		+	+	
1268	1,3-dichloropropene chloroallyl chloride  ClCH <sub>2</sub> CH=CHCl C <sub>3</sub> H <sub>4</sub> Cl <sub>2</sub>	TR	20	-	-	-	-	+	+	-	+	+	+	-	-			-	+	+		+	+		
		TR	40					+	+			+	+	+					+	+		+	+		
		TR	60					+	+			+	+	+					+	+		+	+		
		TR	80					+	+			+	+	+						+	+		+	+	
		TR	100					+	+			+	+	+							+		+	+	

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Release Date: 2017-03-22

	Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor	
<b>1269</b> 1,2-dichlorotetrafluoroethane Frigen 114  C1CF2CF2Cl C2Cl2F4	gf	TR	20	+	0	-	-	+	+	+															
	gf	TR	40	0					+	+															
	gf	TR	60						+	+															
	gf	TR	80						+	+															
	gf	TR	100						+	+															
<b>1270</b> Diesel fuels			20	+	+	+	+	+	+	+	+	+	+	+	+	+	-	+	0	+	+		+	+	
			40	+	+	0	0	+	+	+		+	+	+	+	+		+	-	+	+		+	+	
			60	0	0	-	-	+	+	+		+	+	+	+	+					+	+		+	+
			80					+	+	+			+	+	+						+	+		+	+
			100					+	+	+			+	+	+						+	+		+	+
			120					+	+	+			+	+	+							+		+	+
<b>1271</b> diethanolamine 2,2'-iminodiethanol bis(2-hydroxyethyl)amine (HOCH2CH2)2NH C4H11NO2		TR	20		+	+	+	-	+	+			+	+				-		+	+		+	+	
		TR	40						+	+			+	+							+	+		+	+
		TR	60						+	+			+	+							+	+			
		TR	80						+	+			+	+								+			
		TR	100						+	+			+	+								+			
<b>1272</b> diethylamine  (C2H5)2NH C4H11N		TR	20	0	+	+	+	0	+	+			+	+	+	-	0	-	-	+	+		+	+	
		TR	40	0	0			-	+	+			+	+	+						+	+		+	+
		TR	60		0				+	+			+	+	+						+	+		+	+

**Abbreviations:** fe = humid; fl = liquid; gf = gaseous; tr = dry; wä = aqueous solution

GK = low concentration; GL = cold saturated solution; H = usual in trade; HK = high concentration; TR = technically pure; VL = diluted solution

+ = resistant; 0 = conditionally resistant; - = non-resistant



## Chemical Resistance

Release Date: 2017-03-22

Condition	Concentration	Temperature [°C]	Material																					
			PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor	
<b>1273</b> diethylene glycol bis(2-hydroxyethyl)ether diglycol O(CH <sub>2</sub> CH <sub>2</sub> OH) <sub>2</sub> C <sub>4</sub> H <sub>10</sub> O <sub>3</sub>	TR	20	+	+	+	+	+	+	+	-		+	+	+	+	+	+	+	+	+	+	+	+	+
	TR	40	+	+	+	+	+	+	+			+	+	+	+	+	+	+	+	+	+	+	+	+
	TR	60	+	+	+	+	+	+	+			+	+	+	+	+	+	+	+	+	+	+	+	+
	TR	80					+	+	+			+	+	+	-	+	+	+	+	+	+	+	+	+
	TR	100					+	+	+			+	+	+		+	+	0	+	+	+	+	+	+
<b>1274</b> diethyl ether ethyl ether ether (C <sub>2</sub> H <sub>5</sub> ) <sub>2</sub> O C <sub>4</sub> H <sub>10</sub> O	TR	20	-	0	0	0	+	+	+	-		+	+	+	-	-	-	0	+	+	+	+	+	
	TR	40	-	-	0	0	+	+	+			+	+	+					+	+	+	+	+	
<b>1275</b> diethyl ketone 3-pentanone C <sub>2</sub> H <sub>5</sub> COC <sub>2</sub> H <sub>5</sub> C <sub>5</sub> H <sub>10</sub> O	TR	20	0	+	0	0		+	+	-		+	+	+			-		+	+		+	+	
	TR	40						+	+			+	+	+					+	+		+	+	
	TR	60						+	+			+	+	+					+	+		+	+	
	TR	80						+	+			+	+	+						+		+	+	
	TR	100						+	+			+	+	+						+		+	+	
<b>1276</b> diglycolic acid O(CH <sub>2</sub> CO <sub>2</sub> H) <sub>2</sub> C <sub>4</sub> H <sub>6</sub> O <sub>5</sub>	wä	30%	20	+	+	+	+	+	+	-	+	+	+	+					+	+	+	+	+	
	wä	30%	40	+	+	+	+		+	+	-		+	+	+					+	+	+	+	
	wä	30%	60	0	+	+	+		+	+				+					+	+				
	wä	30%	80						+	+				+						+	+			
	wä	30%	100						+	+				+						+	+			
<b>1277</b> diisobutyl ketone 2,6-dimethyl-4-heptanone isovalerone (CH <sub>3</sub> ) <sub>2</sub> CHCH <sub>2</sub> COCH <sub>2</sub> CH(CH <sub>3</sub> ) <sub>2</sub> C <sub>9</sub> H <sub>18</sub> O	TR	20	+	+	+	+	+	+	+	-		+	+	+	-	0	-	-	+	+		+	+	
	TR	40		-	-	-	+	+				+	+	+					+	+		+	+	
	TR	60		-	-	-	0	+	+			+	+	+					+	+		+	+	
	TR	80						+	+			+	+	+						+		+	+	
	TR	100						+	+			+	+	+						+		+	+	

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GL = low concentration; GL = cold saturated solution; H = usual in trade; HK = high concentration; TR = technically pure; VL = diluted solution

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## Chemical Resistance

Release Date: 2017-03-22

Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor	
1278	diisopropyl ether	TR	20	-	0	-	+	+	+	+	-	+	+	+	-	-	-	-	+	+		+	+	
		TR	40		0	-	+	+	+	+	-	+	+	+	+					+	+		+	+
		TR	60		-	-	-	+	+	+	-	-	+	+	+					+	+		+	+
isopropyl ether																								
(CH3)2CHOCH(CH3)2																								
C6H14O																								
1279	dimethylamine	wä	40%	20	-	+	+	+	0	+	+				-	0	-	-	+	+		+	+	
		wä	40%	40		0			-	+	+									+	+		+	+
(CH3)2NH																								
C2H7N																								
1280	N,N-dimethylaniline	TR	20	-				+	+	+	-	+	+	+		-			+	+		+	+	
		TR	40					+	+	+		+	+	+					+	+		+	+	
		TR	60					0	+	+		+	+	+					+	+		+	+	
		TR	80					-	+	+		+	+	+					+	+		+	+	
		TR	100						+	+		+	+	+							+			
		TR	120						+	+		+	+	+							+			
C6H5N(CH3)2																								
C8H11N																								
1282	dimethylformamide	TR	20	-	+	+	+	-	+	+	-	+	+	+	-	0	-	-	+	+		+	+	
		TR	40		+	+	+		+	+		+	+	+					+	+		+	+	
		TR	60		0	+	+		+	+		+	+	+					+	+		+	+	
		TR	80						+	+		+	+	+						+	+			
		TR	100						+	+		+	+	+							+			
		TR	120						+	+		+	+	+							+			
N,N-dimethylformamide																								
DMF																								
HCON(CH3)2																								
C3H7NO																								

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## Chemical Resistance

Release Date: 2017-03-22

	Condition	Concentration	Temperature [°C]	Material																								
				PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSIC	Carbon	Al2O3	Al2O3 Sensor				
1283	wä	GL	20	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+			
			40	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		
			60	+																								
			80																									
			100																									
H <sub>2</sub> NN(CH <sub>3</sub> ) <sub>2</sub> C <sub>2</sub> H <sub>8</sub> N <sub>2</sub>																												
1284	TR	TR	20	-	0	+	+			+	+			-	+	+	+	-	0	+	-	+	+		+	+		
			40								+	+				+	+	+								+	+	
			60								+	+				+	+	+								+	+	
			80								+	+				+	+	+								+	+	
			100								+	+				+	+	+								+	+	
			120								+	+				+	+	+								+	+	
phthalic acid dimethyl ester DMP C <sub>6</sub> H <sub>4</sub> -1,2-(CO <sub>2</sub> CH <sub>3</sub> ) <sub>2</sub> C <sub>10</sub> H <sub>10</sub> O <sub>4</sub>																												
1285	wä	GL	20	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		
			40	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
			60			+	+	+	+	+	+	+	+	+	+													
			80							+	+	+																
			100							+	+	+																
disodium hydrogenphosphate Na <sub>2</sub> HPO <sub>4</sub> HNa <sub>2</sub> PO <sub>4</sub>																												
1286	TR	TR	20	-	+	0	0	0	+	+	-			+	+	+	-	0	-	-	+	+			+	+		
			40		+	0	0	-	+	+	-				+	+	+									+	+	
			60		+	0	0		+	+						+	+	+								+	+	
			80			-	-		+	+						+	+	+								+	+	
			100						+	+						+	+	+								+	+	
C <sub>4</sub> H <sub>8</sub> O <sub>2</sub>																												

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## Chemical Resistance

Release Date: 2017-03-22

Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor	
<b>1287</b> diphenyl biphenyl dibenzene C6H5-C6H5 C12H10	TR	20	-	+	0	0	-	+	+															
	TR	40		+	0	0		+	+															
	TR	60		+	0	0		+	+															
	TR	80						+	+															
	TR	100						+	+															
<b>1288</b> diphenylamine N-phenylaniline  (C6H5)2NH C12H11N	TR	20	-	-	-	-	-	+	+															
	TR	40						+	+															
	TR	60						+	+															
	TR	80						+	+															
	TR	100						+	+															
<b>1289</b> diphenyl ether diphenyl oxide phenyl ether (C6H5)2O C12H10O	TR	20	-	-	-	-	-	+	+		-	+	+	+		-			+	+		+	+	
	TR	40						+	+			+	+	+					+	+		+	+	
	TR	60						+	+			+	+	+					+	+		+	+	
	TR	80						+	+			+	+	+						+		+	+	
	TR	100						+	+			+	+	+							+	+		
	TR	120						+	+			+	+	+							+	+		
<b>1290</b> benzophenone diphenyl ketone  (C6H5)2CO C13H10O	TR	20						+	+											+	+		+	+
	TR	40						+	+											+	+		+	+
	TR	60						+	+												+		+	+
	TR	80						+	+												+		+	+
	TR	100						+	+												+		+	+

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GK = low concentration; GL = cold saturated solution; H = usual in trade; HK = high concentration; TR = technically pure; VL = diluted solution

+ = resistant; 0 = conditionally resistant; - = non-resistant



## Chemical Resistance

Release Date: 2017-03-22

	Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1.4301	V4A 1.4571	Hast-C 2.4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor
1295  FeClSO4 ClFeO4S	wä	40%	20	+	+	+	+	+	+	+					+		+	+		+	+	+	+	+
	wä	40%	40	+	+	+	+	+	+	+					+		+	+		+	+	+	+	+
	wä	40%	60		+	+	+	+	+	+					+			+		+	+	+	+	+
	wä	40%	80			+	+		+	+					+					+	+			+
	wä	40%	100						+	+					+					+	+			
1296  FeCl2 Cl2Fe	wä	VL	20	+	+	+	+	+	+	+	+	+			+	+	+	+	+	+	+	+	+	+
	wä	VL	40	+	+	+	+	+	+	+	+	+			+	+	+	+	+	+	+	+	+	+
	wä	VL	60	0	+	+	+	+	+	+		+			+	+	+	+	+	+	+	+	+	+
	wä	VL	80			+	+	+	+	+					+			+	+	+	+	+		+
	wä	VL	100					+	+	+					+			+		+	+			
	wä	GL	20	+	+	+	+	+	+	+	+	+			+	+	+	+	+	+	+	+	+	+
	wä	GL	40	+	+	+	+	+	+	+	+	+			+	+	+	+	+	+	+	+	+	+
	wä	GL	60	0	+	+	+	+	+	+		+			+	+	+	+	+	+	+	+	+	+
	wä	GL	80			+	+	+	+	+					+		+	+	+	+	+	+		+
	wä	GL	100					+	+	+					+			+		+	+			
1297  Fe(OH)2 H2FeO2	wä	GL	20		+	+	+					+			+		+	+		+	+	+	+	+
	wä	GL	40		+	+	+					+			+		+	+		+	+	+	+	+
	wä	GL	60		+	+	+					+			+		+			+	+		+	+
	wä	GL	80			+	+								+		+			+	+			
	wä	GL	100												+					+	+			

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## Chemical Resistance

Release Date: 2017-03-22

Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1.4301	V4A 1.4571	Hast-C 2.4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor	
1298 ferric chloride  FeCl3	iron(III) chloride	wä 10%	20	+	+	+	+	+	+			-	-	+	+	+	+	+	+	+	+	+	+	
		wä 10%	40	+	+	+	+	+	+						+	+	+	+	+	+	+	+	+	+
		wä 10%	60	0	+	+	+	+	+						+	+	+	+	+	+	+	+	+	+
		wä 10%	80			+	+	+	+						+	+	+	+	+	+	+	+	+	+
		wä 10%	100					+	+						+	+	+	+	+	+	+	+	+	+
		wä 48% (GL)	20	+	+	+	+	+	+				-	-	+	+	+	+	+	+	+	+	+	+
		wä 48% (GL)	40	+	+	+	+	+	+						+	+	+	+	+	+	+	+	+	+
		wä 48% (GL)	60		+	+	+	+	+						+	+	+	+	+	+	+	+	+	+
		wä 48% (GL)	80			+	+	+	+						+	+	+	+	+	+	+	+	+	+
		wä 48% (GL)	100					+	+						+	+	0	+	+	+	+	+	+	+
1299  Fe(NO3)3 FeN3O9	iron(III) nitrate	wä GL	20	+	+	+	+	+	+		+			+	+	+			+	+	+	+	+	
		wä GL	40	+	+	+	+	+	+		+			+	+	+			+	+	+	+	+	
		wä GL	60		+	+	+	+	+					+	+	+			+	+	+	+	+	
		wä GL	80					+	+					+	+					+	+	+	+	
		wä GL	100					+	+					+	+					+	+	+	+	

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Release Date: 2017-03-22

	Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor
1300  Fe <sub>2</sub> (SO <sub>4</sub> ) <sub>3</sub> Fe <sub>2</sub> O <sub>12</sub> S <sub>3</sub>	wä	10%	20	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
	wä	10%	40	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
	wä	10%	60	0	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
	wä	10%	80			+	+	+	+	+	+			+	+	+					+	+		+
	wä	10%	100					+	+	+			+	+	+						+	+		+
	wä	50%	20	+	+	+	+	+	+	+	+	+	+			+	+	+	+	+	+	+	+	+
	wä	50%	40	+	+	+	+	+	+	+	+	+	+			+	+	+	+	+	+	+	+	+
	wä	50%	60	0	+	+	+	+	+	+	+					+	+	+	+	+	+	+	+	+
	wä	50%	80			+	+	+	+	+	+					+		+	+		+	+		+
	wä	50%	100					+	+	+						+					+	+		+
	wä	GL	20	+	+	+	+	+	+	+	+	+	+			+	+	+	+	+	+	+	+	+
	wä	GL	40	+	+	+	+	+	+	+	+	+	+			+	+	+	+	+	+	+	+	+
	wä	GL	60	0	+	+	+	+	+	+	+					+	+	+	+	+	+	+	+	+
	wä	GL	80			+	+	+	+	+	+					+		+	+		+	+		+
	wä	GL	100					+	+	+						+					+	+		+
1301  Fe(NO <sub>3</sub> ) <sub>2</sub> FeN <sub>2</sub> O <sub>6</sub>	wä	GL	20	+	+	+	+	+	+	+	+	+			+	+	+	+	+	+	+	+	+	
	wä	GL	40	+	+	+	+	+	+	+	+	+			+	+	+	+	+	+	+	+	+	
	wä	GL	60	0	+	+	+	+	+	+	+	+			+	+	+	+	+	+	+	+	+	
	wä	GL	80			+	+	+	+	+	+					+	0	+	+	0	+	+		+
	wä	GL	100					+	+	+						+					+	+		+
1302  FeSO <sub>4</sub> FeO <sub>4</sub> S	wä	GL	20	+	+	+	+	+	+	+	+	+			+	+	+	+	+	+	+	+	+	
	wä	GL	40	+	+	+	+	+	+	+	+	+			+	+	+	+	+	+	+	+	+	
	wä	GL	60	0	+	+	+	+	+	+	+	+			+	+	+	+	+	+	+	+	+	
	wä	GL	80			+	+	+	+	+	+					+	0	+	+	0	+	+		+
	wä	GL	100					+	+	+						+					+	+		+

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GK = low concentration; GL = cold saturated solution; H = usual in trade; HK = high concentration; TR = technically pure; VL = diluted solution

+ = resistant; 0 = conditionally resistant; - = non-resistant



## Chemical Resistance

Release Date: 2017-03-22

Condition	Concentration	Temperature [°C]	Material																						
			PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1.4301	V4A 1.4571	Hast-C 2.4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor		
1303	iron oxalate	wä	20	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		
		wä	40	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
		wä	60	0	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
		wä	80			+	+	+	+	+	+	+	+	+	+	+	+	0	+	+	+	+	+	+	
		wä	100							+	+									+	+				
1307	epichlorohydrin chloromethyloxirane 1-chloro-2,3-epoxypropane C3H5ClO	TR	20	-	+	+	+	-	+	+						-	-		+	+		+	+		
		TR	40	-	+	+	+	-	+	+										+	+		+	+	
		TR	60		+	+	+	-	+	+											+	+		+	+
		TR	80					-	+	+												+		+	+
		TR	100					-	+	+												+		+	
		TR	120					-	+	+															
1308	natural gas CH4	gf	HK	20	+	+	+	+	+	+	+	+	+	+	+	+	-	+	-	+					
		gf	HK	40					+	+	+	+					+			+					
		gf	HK	60					+	+	+									+					
		gf	HK	80					+	+	+										+				
		gf	HK	100					+	+	+										+				
1309	petroleum crude oil		20	0	+	+	+	+	+	+	+	+	+	+	+	-	+		+	+		+	+		
			40		0	0	0	+	+	+	+									+	+		+	+	
			60		-	-	-	+	+	+											+	+		+	+
			80					+	+	+											+	+		+	+
			100					+	+	+											+	+		+	+

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GK = low concentration; GL = cold saturated solution; H = usual in trade; HK = high concentration; TR = technically pure; VL = diluted solution

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# Chemical Resistance

Release Date: 2017-03-22

Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor	
1310 ethanoic acid  CH3CO2H C2H4O2	acetic acid	wä 5% 20	+	+	+	+	+	+	+	-	+	+	+	+	+	+	0	0	+	+	+	+		
		wä 5% 40	+	+	+	+	+	+	+	+	-	+	+	+	+	+	-	-	+	+	+	+		
		wä 5% 60		+	+	+	+	+	+	+					+						+	+	+	
		wä 5% 80						+	+	+					+						+		+	
		wä 5% 100							+	+					+						+			
		wä 10% 20	+	+	+	+	+	+	+	+	-	+	+	+	+	+	+	0	0	+	+	+	+	
		wä 10% 40	+	+	+	+	+	+	+	+		+	+	+	+	+		-	-	+	+	+	+	
		wä 10% 60		+	+	+	+	+	+	+					+						+	+	+	+
		wä 10% 80						+	+	+					+						+		+	+
		wä 10% 100							+	+					+						+			
		wä 25% 20	+	+	+	+	+	+	+	+	-	+	+	+	+	+	-	0	-	0	+	+	+	+
		wä 25% 40	+	+	+	+	+	+	+	+		+	+	+	+	+		0			+	+	+	+
		wä 25% 60		+	+			+	+	+					+						+	+	+	+
		wä 25% 80						+	+	+					+						+		+	+
		wä 25% 100							+	+					+						+			
		wä 50% 20	+	+	+	+	+	+	+	+	-	+	+	+	+	+	-	0	-	0	+	+	+	+
		wä 50% 40	+	+	+	+	+	+	+	+		+	+	+	+	+		-			+	+	+	+
		wä 50% 60		+	+			+	+	+					+						+	+	+	+
		wä 50% 80						+	+	+					+						-	+	+	+
		wä 50% 100							+	+					+						+			
		wä 60% 20	+	+	+	+	+	+	+	+	-		+	+	+	+	-	0	-	-	+	+	+	+
		wä 60% 40	+	+	+	+	+	+	+	+			+	+	+	+		-			+	+	+	+
		wä 60% 60							+	+					+						+	+	+	
		wä 60% 80							+	+					+						-	+	+	
		wä 60% 100							+	+					+						+			
		wä 80% 20	+	+	+	+	+	+	+	+	-		+	+	+	+	-	0	-	-	+	+	+	+
		wä 80% 40	0	+	+	+	+	+	+	+			+	+	+	+		-			+	+	+	+
		wä 80% 60							+	+					+						+	+	+	

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 GK = low concentration; GL = cold saturated solution; H = usual in trade; HK = high concentration; TR = technically pure; VL = diluted solution  
 + = resistant; 0 = conditionally resistant; - = non-resistant



## Chemical Resistance

Release Date: 2017-03-22

Condition	Concentration	Temperature [°C]	Material																				
			PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor
wä	80%	80						+	+											+			
wä	80%	100						+	+											+			
wä	90%	20	+	+	+	+	+	+	+	-										+		+	+
wä	90%	40	0	+	+	+	+	+	+											+		+	+
wä	90%	60						+	+											+		+	
wä	90%	80						+	+										-	+		+	
wä	90%	100						+	+											+			
wä	95%	20	+	+	+	+	+	+	+	-										+		+	+
wä	95%	40	0	+	+	+	0	+	+	-										+		+	+
wä	95%	60						+	+											+		+	
wä	95%	80						+	+											+		+	
wä	95%	100						+	+											+			
tr	100%	20	0	+	+	+	0	+	+	-	-									+		+	+
tr	100%	40	-	0	+	+	0	+	+											+		+	+
tr	100%	60						+	+											+		+	
tr	100%	80						+	+											+		+	
tr	100%	100						+	+											+			

1311	ethane																						
CH3CH3 C2H6	gf	HK	20	+	+	+	+	+	+														
	gf	HK	40		+			+	+	+													
	gf	HK	60		+			+	+	+													
	gf	HK	80					+	+	+													
	gf	HK	100					+	+	+													

**Abbreviations:** fe = humid; fl = liquid; gf = gaseous; tr = dry; wä = aqueous solution

GK = low concentration; GL = cold saturated solution; H = usual in trade; HK = high concentration; TR = technically pure; VL = diluted solution

+ = resistant; 0 = conditionally resistant; - = non-resistant





## Chemical Resistance

Release Date: 2017-03-22

		Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSIC	Carbon	Al2O3	Al2O3 Sensor		
<b>1312</b>	<b>ethanol</b>	wä	10%	20	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		
		wä	10%	40	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
		wä	10%	60	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
		CH3CH2OH	wä	10%	80					+	+	+			+	+	+		+			+	+		+	+	
		C2H6O	wä	50%	20	+	+	+	+	+	+	+	0	+	+	+	+	+	+	+	+	+	+	+	+	+	
			wä	50%	40	+	+	+	+	+	+	+		+	+	+	+	+	+	+	+	+	+	+	+	+	
			wä	50%	60	0	+	+	+	+	+	+			+	+	+	+	+	+	+	+	+	+	+	+	
			wä	50%	80					+	+	+			+	+	+	+	+	+	+	+	+	+	+	+	
			TR	20	+	+	+	+	+	+	+	+	-	+	+	+	+	+	0	+		+	+	+	+	+	+
			TR	40	+	+	+	+	+	+	+	+		+	+	+	+	+	0	+		+	+	+	+	+	+
			TR	60	0	+	+	+	+	+	+	+			+	+	+	+	-	+		0	+	+	+	+	+
			TR	80						+	+	+			+	+	+	+	+	+	+	+	+	+	+	+	+
<b>1313</b>	<b>ethanolamine</b>		TR	20	-	+	+	+	-	+	+	-		+	+	+	+	+	-	+	+	+		+	+		
		2-aminoethanol	TR	40		+	+	+		+	+			+	+	+	+	+	+		+	+		+	+		
		colamine	TR	60		+	+	+		+	+						+	0				+	+				
		NH2CH2CH2OH	TR	80			+	+		+	+						+						+				
		C2H7NO	TR	100						+	+						+						+				
<b>1314</b>	<b>ethene</b>	gf	HK	20	+	+			+	+	+																
		ethylene	gf	HK	40		+			+	+	+															
			gf	HK	60		0			+	+	+															
		CH2=CH2	gf	HK	80					+	+	+															
		C2H4	gf	HK	100					+	+	+															

**Abbreviations:** fe = humid; fl = liquid; gf = gaseous; tr = dry; wä = aqueous solution

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## Chemical Resistance

Release Date: 2017-03-22

Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor
<b>1316</b> isooctanol  CH <sub>3</sub> (CH <sub>2</sub> ) <sub>3</sub> CH(C <sub>2</sub> H <sub>5</sub> )CH <sub>2</sub> OH C <sub>8</sub> H <sub>18</sub> O	2-ethyl-1-hexanol	20	+	+	+	+		+	+			+	+	+		-			+	+		+	+
		40		+				+	+			+	+	+					+	+		+	+
		60		0				+	+			+	+	+					+	+		+	+
		80						+	+			+	+	+					+	+		+	+
		100						+	+			+	+	+					+	+		+	+
		120						+	+			+	+	+					+	+		+	+
<b>1317</b> acetic acid ethyl ester  CH <sub>3</sub> CO <sub>2</sub> C <sub>2</sub> H <sub>5</sub> C <sub>4</sub> H <sub>8</sub> O <sub>2</sub>	ethyl acetate	20	-	+	+	+	-	+	+	-	-	+	+	+	-	-	-	-	+	+		+	+
		40		0	0	0		+	+			+	+	+					+	+		+	+
		60		-	-	-		+	+			+	+	+					+	+		+	+
		80						+	+			+	+	+					+	+		+	+
<b>1318</b> acrylic acid ethyl ester 2-propenoic acid ethyl ester CH <sub>2</sub> =CHCO <sub>2</sub> C <sub>2</sub> H <sub>5</sub> C <sub>5</sub> H <sub>8</sub> O <sub>2</sub>	ethyl acrylate	20	-					+	+					+	-	0	-	0		+		+	+
		40	-					+	+											+		+	+
		60	-					-	+	+										+		+	+
		80						-	+	+										+		+	+
		100						+	+											+		+	+
<b>1319</b> phenylethane  C <sub>6</sub> H <sub>5</sub> C <sub>2</sub> H <sub>5</sub> C <sub>8</sub> H <sub>10</sub>	ethylbenzene	20	-	0	0	0	+	+	+		-	+	+	+	-	-	+	-	+	+		+	+
		40		-	-	-		+	+			+	+	+					+	+		+	+
		60		-				+	+			+	+	+					+	+		+	+
		80						+	+			+	+	+					+	+		+	+
		100						+	+			+	+	+					+	+		+	+
		120						+	+			+	+	+					+	+		+	+

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## Chemical Resistance

Release Date: 2017-03-22

		Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor		
<b>1320</b>	<b>ethyl chloride</b> chloroethane CH3CH2Cl C2H5Cl	gf	TR	20	-	0	0	0	+	+	+								0	-							
		gf	TR	40		-	0	0	+	+	+									0							
		gf	TR	60						+	+	+								0							
		gf	TR	80						+	+	+															
		gf	TR	100						+	+	+															
<b>1321</b>	<b>ethylene bromide</b> 1,2-dibromoethane BrCH2CH2Br C2H4Br2		TR	20	-	0	-	-	+	+	+			+	+	+	-	-	0	0	+	+		+	+		
			TR	40		-				+	+	+			+	+	+					+	+		+	+	
			TR	60						+	+	+			+	+	+						+	+		+	+
			TR	80						+	+	+			+	+	+						+	+		+	+
			TR	100						+	+	+			+	+	+							+		+	+
			TR	120							+	+			+	+	+							+		+	+
<b>1322</b>	<b>ethylenediamine</b> ethane-1,2-diamine 1,2-diaminoethane H2NCH2CH2NH2 C2H8N2		TR	20	0	+	+	+		+	+	-		+	+	+	-	+	-		+	+		+	+		
			TR	40	-	+	+	+		+	+				+	+	+					+	+		+	+	
			TR	60	-	+	+	+		+	+				+	+	+						+	+		+	+
			TR	80						+	+				+	+	+							+		+	+
			TR	100						+	+				+	+	+							+		+	+
<b>1323</b>	<b>ethylenediaminetetraacetic acid</b> EDTA Titriplex® II (HO2CCH2)2NCH2CH2N(CH2CO2H)2 C10H16N2O8	wä	GL	20		+	+	+		+	+	-															
		wä	GL	40		+	+	+		+	+																
		wä	GL	60		+	+	+		+	+																
		wä	GL	80						+	+																
		wä	GL	100						+	+																

**Abbreviations:** fe = humid; fl = liquid; gf = gaseous; tr = dry; wä = aqueous solution

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+ = resistant; 0 = conditionally resistant; - = non-resistant



## Chemical Resistance

Release Date: 2017-03-22

Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor		
<b>1324</b>	<b>ethylene glycol</b>	TR	20	+	+	+	+	+	+	-		+	+	+	+	+	+	+	+	+	+	+	+		
		TR	40	+	+	+	+	+	+			+	+	+	+	+	+	+	+	+	+	+	+	+	
		TR	60	+	+	+	+	+	+				+	+	+		+	+	+	+	+	+	+	+	
		TR	80					+	+	+			+	+	+		+	+	+	+	+				
		TR	100					+	+	+			+	+	+		+	+	0	+	+				
		TR	120						+	+			+	+	+						+				
<b>1325</b>	<b>ethylene glycol diethyl ether</b>	TR	20	+	+	+	+	+	+	-		+	+	+	+	+		+	+	+		+	+		
		TR	40	+	+	+	+	+	+			+	+	+	+	+		+	+	+		+	+		
		TR	60		+	+	+	+	+				+	+	+	+	+		+	+	+		+	+	
		TR	80					+	+	+			+	+	+	0	+		+	+	+		+	+	
		TR	100					+	+	+			+	+	+	0	+		+	+	+		+	+	
<b>1326</b>	<b>ethylene oxide</b>	gf	TR	20	0	+	+	+	+	+					-				+						
		gf	TR	40					+	+	+									+					
		gf	TR	60						+	+									+					
		gf	TR	80						+	+									+					
		gf	TR	100						+	+									+					
<b>1328</b>	<b>ethyl methyl ketone</b>	TR	20	-	+	+	+	-	+	+	-	-	+	+	+	-	0	-	0	+	+		+	+	
		TR	40		0	0	0		+	+		-	+	+	+		0			+	+		+	+	
		TR	60		-	0	0		+	+		-	+	+	+					+	+		+	+	
		TR	80						+	+			+	+	+						+			+	+

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# Chemical Resistance

Release Date: 2017-03-22

Condition	Concentration	Temperature [°C]	Material																						
			PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSIC	Carbon	Al2O3	Al2O3 Sensor		
<b>1329</b> potassium hexacyanoferrate(II) potassium ferrocyanide prussiate, yellow K <sub>4</sub> Fe(CN) <sub>6</sub> C <sub>6</sub> FeK <sub>4</sub> N <sub>6</sub>	wä	10%	20	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
	wä	10%	40	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
	wä	10%	60	0	+	+	+	+	+	+	+	+	+	0	+	+	+	+	+	+	+	+	+	+	
	wä	10%	80					+	+	+							+	+	+	+					
	wä	10%	100					+	+	+								+	+	+					
	wä	GL	20	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
	wä	GL	40	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
	wä	GL	60	0	+	+	+	+	+	+	+	+	+	0	+	+	+	+	+	+	+	+	+	+	+
	wä	GL	80					+	+	+							+	+	+	+					
	wä	GL	100					+	+	+									+	+					
<b>1330</b> potassium hexacyanoferrate(III) potassium ferricyanide prussiate, red K <sub>3</sub> Fe(CN) <sub>6</sub> C <sub>6</sub> FeK <sub>3</sub> N <sub>6</sub>	wä	10%	20	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
	wä	10%	40	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
	wä	10%	60	0	+	+	+	+	+	+	+	+	+	0	+	+	+	+	+	+	+	+	+	+	
	wä	10%	80					+	+	+							+	+	+	+					
	wä	10%	100					+	+	+								+	+	+					
	wä	GL	20	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
	wä	GL	40	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
	wä	GL	60	0	+	+	+	+	+	+	+	+	+	0	+	+	+	+	+	+	+	+	+	+	
	wä	GL	80					+	+	+							+	+	+	+					
	wä	GL	100					+	+	+									+	+					
<b>1331</b> fatty alcohols	wä		20	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
	wä		40	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
	wä		60	0	+	0	0	+	+	+							+	+	+	+	+	+	+	+	
	wä		80					+	+	+									+	+					
	wä		100					+	+	+									+	+					

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 GK = low concentration; GL = cold saturated solution; H = usual in trade; HK = high concentration; TR = technically pure; VL = diluted solution  
 + = resistant; 0 = conditionally resistant; - = non-resistant

# Chemical Resistance

Release Date: 2017-03-22

		Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSIC	Carbon	Al2O3	Al2O3 Sensor	
<b>1332</b>	<b>fatty alcohol sulfates</b>	wä		20	+	+	+	+	+	+	+			+	+	+	+	+	+	+	+	+	+	+	+	
		alkyl sulfates	wä		40	+	+	+	+	+	+	+			+	+	+	+	+	+	+	+	+	+	+	+
			wä		60	0	+	0	0	+	+	+			+	+	+	+	+	+	+	+	+	+	+	+
		ROSO3X	wä		80					+	+	+			+	+	+					+	+		+	+
			wä		100					+	+	+			+	+	+						+	+		+
<b>1333</b>	<b>triglyceride</b>			20	+				+	+	+			+	+	+	0	-	+	-	+	+		+	+	
				40	+				+	+	+				+	+	+					+	+		+	+
				60	+				+	+	+				+	+	+					+	+		+	+
				80					+	+	+				+	+	+					+	+		+	+
				100					+	+	+				+	+	+					+	+		+	+
<b>1335</b>	<b>fatty acids &gt; C6</b>		TR	20	+	0	+	+	+	+	+			+	+	+	0	-	+	-	+	+		+	+	
		carboxylic acids > C6	TR	40	+	0	+	+	+	+	+				+	+	+					+	+		+	+
			TR	60	+	0	0	0	+	+	+				+	+	+					+	+		+	+
		RCO2H	TR	80					+	+	+				+	+	+					+	+		+	+
			TR	100						+	+				+	+	+					+	+		+	+
<b>1336</b>	<b>fluorine</b>	gf	TR	20	-	-	-	-	-	+	+							-	-	0	0	0				
			gf	TR	40						+	+														
			gf	TR	60						+	+														
			gf	TR	80						+	+														
		F2	gf	TR	100						+	+														
<b>1337</b>	<b>fluoroboric acid</b>	wä	50%	20					+	+	+						-				+	+				
		tetrafluoroboric acid	wä	50%	40					+	+	+										+	+			
		hydrogen tetrafluoroborate	wä	50%	60						+	+										+	+			
			wä	50%	80						+	+														
		HBF4	wä	50%	100						+	+														

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## Chemical Resistance

Release Date: 2017-03-22

Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor
1338 hexafluorosilicic acid fluorosilicic acid H <sub>2</sub> SiF <sub>6</sub> H <sub>2</sub> F <sub>6</sub> Si	wä	10%	20	+	+	+	+	+	+					+	0	+	+	+	+	+	+	+	+
	wä	10%	40	+	+	+	+	+	+					+		+	+		+	+	+	+	+
	wä	10%	60		+	+		+	+										-	+	+		
	wä	10%	80				+	+	+												+		
	wä	10%	100				+	+	+														
	wä	30%	20	+	+	+	+	+	+						+	-	+	+	+	+	+	+	
	wä	30%	40	+	+	+	+	+	+						+		+	+	+	+	+	+	
	wä	30%	60		+	+		+	+										-	+	+		
	wä	30%	80				+	+	+												+		
	wä	30%	100				+	+	+														
	wä	35%	20	+	+	+	+	+	+						+	-	+	+	+	+	+	+	
	wä	35%	40	+	+	+	+	+	+						+		+	+	+	+	+	+	
	wä	35%	60		+	+		+	+										-	+	+		
	wä	40%	20	+	+	+	+	+	+						+	-	+	+	+	+	+	+	
	wä	40%	40	+	+	+	+	+	+						+					+	+	+	
	wä	40%	60		+	+		+	+										-	+	+		

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## Chemical Resistance

Release Date: 2017-03-22

Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor
1339	hydrofluoric acid	wä 10%	20	+	+	+	-	+	+	+	-	-	-	-	-	-	+	0	+	+	-	-	
		wä 10%	40	+	+	+	-	+	+	+	-	-	-	-	-	-	-	+	0	+	+	-	-
		wä 10%	60	0	+	0	-	+	+	+	-	-	-	-	-	-	-	-	-	+	+	-	-
		wä 10%	80			0	-	+	+	+	-	-	-	-	-	-	-	-	-	+	+	-	-
		wä 10%	100				-	+	+	+	-	-	-	-	-	-	-	-	-	+	+	-	-
		wä 40%	20	+	+	+	-	+	+	+	-	0	-	-	-	-	-	+	-	+	+	-	-
		wä 40%	40	0	+	+	-	+	+	+	-	-	-	-	-	-	-	+	-	+	+	-	-
		wä 40%	60	-			-	+	+	+	-	-	-	-	-	-	-	-	-	+	+	-	-
		wä 40%	80				-	+	+	+	-	-	-	-	-	-	-	-	-	+	+	-	-
		wä 40%	100				-	+	+	+	-	-	-	-	-	-	-	-	-	+	+	-	-
		wä 50%	20	0	+	+	-	+	+	+	-	0	-	-	-	-	-	+	-	+	+	-	-
		wä 50%	40	-	+	0	-	+	+	+	-	-	-	-	-	-	-	+	-	+	+	-	-
		wä 50%	60				-	+	+	+	-	-	-	-	-	-	-	-	-	+	+	-	-
		wä 50%	80				-	+	+	+	-	-	-	-	-	-	-	-	-	+	+	-	-
		wä 60%	20	-	+	0	-	+	+	+	-	-	-	-	-	-	-	0	-	+	+	-	-
		wä 60%	40		0	0	-	+	+	+	-	-	-	-	-	-	-	0	-	+	+	-	-
		wä 60%	60				-	+	+	+	-	-	-	-	-	-	-	-	-	+	+	-	-
		wä 70%	20	-	+	-	-	+	+	+	-	-	-	-	-	-	-	0	-	0	+	-	-
		wä 70%	40				-	+	+	+	-	-	-	-	-	-	-	0	-	0	+	-	-
		wä 70%	60				-	+	+	+	-	-	-	-	-	-	-	-	-	+	+	-	-

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## Chemical Resistance

Release Date: 2017-03-22

		Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSIC	Carbon	Al2O3	Al2O3 Sensor		
<b>1340</b>	<b>formaldehyde</b>	wä	15%	20	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		
		methanal	wä	15%	40	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
			wä	15%	60	0	+	+	+	+	+	+	+	+	+	+	+	+	+	+	0	+	+	+	+	+	
		H2C=O	wä	15%	80					+	+	+			+	+	+						+				
		CH2O	wä	15%	100						+	+			+	+	+							+			
			wä	30%	20	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
			wä	30%	40	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
			wä	30%	60	0	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	0	+	+	+	+	+
			wä	30%	80					+	+	+			+	+	+						+	+			
			wä	30%	100						+	+			+	+	+							+			
			wä	40%	20	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
			wä	40%	40	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
			wä	40%	60	0	+	+	+	+	+	+	+			+	+	+	0	+	+	0	+	+	+	+	+
			wä	40%	80					+	+	+			+	+	+						+	+			
			wä	40%	100						+	+			+	+	+							+			
<b>1341</b>	<b>formamide</b>		TR	20	-	+	+	+		+	+			+	+	+	+	+	0	+	+	+		+	+		
		formic acid amide	TR	40		+	+	+		+	+			+	+	+	+	+	+	0	+	+	+		+	+	
			TR	60		+	+	+		+	+			+	+	+	+	-	+	0	+	+	+		+	+	
		HCONH2	TR	80						+	+			+	+	+							+				
		CH3NO	TR	100						+	+			+	+	+							+				
<b>1342</b>	<b>Freon 11 (CFC-11, F-11)</b>	gf	TR	20	+	-	-	-	+	+	+						+	-	0	+	-						
		trichlorofluoromethane	gf	TR	40					+	+	+															
		Frigen 11	gf	TR	60					+	+	+															
			gf	TR	80					+	+	+															
		CCl3F	gf	TR	100					+	+	+															

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## Chemical Resistance

Release Date: 2017-03-22

Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor
<b>1343</b> Freon 112 (CFC-112, F-112) 1,1,2,2-tetrachloro-1,2-difluoroethane CCl2FCCl2F C2Cl4F2	TR	20	+	-	-	-	+	+	+		0				0	0							
	TR	40					+	+	+														
	TR	60						+	+														
	TR	80						+	+														
	TR	100						+	+														
<b>1344</b> Freon 113 (CFC-113, F-113) 1,2,2-trichloro-1,1,2-trifluoroethane CClF2CCl2F C2Cl3F3	TR	20	+				+	+	+						+	-	+	+	-				
	TR	40					+	+	+														
	TR	60						+	+														
	TR	80						+	+														
	TR	100						+	+														
<b>1345</b> Freon 12 (CFC-12, F-12) dichlorodifluoromethane CCl2F2	gf	TR	20	+	0	0	0	+	+	+	+				0	0	0	0	+				
	gf	TR	40					+	+	+									+				
	gf	TR	60					+	+														
	gf	TR	80					+	+														
	gf	TR	100					+	+														
<b>1346</b> Freon 21 (HCFC-21, F-21) dichlorofluoromethane CHCl2F	gf	TR	20	-	-	-	-	+	+	+									-				
	gf	TR	40					+	+	+													
	gf	TR	60					+	+	+													
	gf	TR	80					+	+	+													
	gf	TR	100					+	+	+													
<b>1347</b> Freon 22 (CFC-22, F-22) chlorodifluoromethane CHClF2	gf	TR	20	+				+	+	+									-				
	gf	TR	40					+	+	+													
	gf	TR	60					+	+	+													
	gf	TR	80					+	+	+													
	gf	TR	100					+	+	+													

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## Chemical Resistance

Release Date: 2017-03-22

Condition	Concentration	Temperature [°C]	Material																								
			PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSIC	Carbon	AI2O3	AI2O3 Sensor				
1348	fruit juices	20	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+			
		40	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		
		60	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
		80			+	+	+	+	+	+			+	+	+	+	+	+	+	+	+	+					
		100							+	+			+	+	+	+	+	+	+	+	+	+					
1349	D-fructose	wä	VL	20	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		
		wä	VL	40	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
		wä	VL	60	0	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
		wä	VL	80			+	+	+	+	+			+	+	+	+	+	+	+	+	+	+	+	+	+	
		wä	VL	100					+	+	+			+	+	+	+	+	+	+	+	+	+	+	+	+	
		wä	GL	20	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
		wä	GL	40	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
		wä	GL	60	0	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
		wä	GL	80			+	+	+	+	+			+	+	+	+	+	+	+	+	+	+	+	+	+	+
1350	furan	TR	20	-				+	+	+			-	+	+	+	-	-	-	-	+	+		+	+		
		TR	40						-	+	+			+	+	+					+	+		+	+		
1351	furfural	TR	20	-	+	+	+	-	+	+			+	+	+	-	0	-	0	+	+		+	+	+		
		TR	40		+				+	+			+	+	+						+	+		+	+		
		TR	60		0				+	+			+	+	+						+	+		+	+		
		TR	80						+	+			+	+	+						+	+					
		TR	100						+	+			+	+	+						+						

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Release Date: 2017-03-22

Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	AI2O3	AI2O3 Sensor
			-	+	+	+	+	+	+	+	-	0	-	0	+	+	+	+	+	+	+	+	+
<b>1352</b> furfuryl alcohol 2-furylmethanol 2-hydroxymethylfuran C5H6O2	TR	20	-	+	+	+	+	+	+	-		+	+	+	-	0	-	0	+	+		+	+
	TR	40		+	0	0	+	+	+			+	+	+				0	+	+		+	+
	TR	60		+	0	0	0	+	+			+	+	+				0	+	+		+	+
	TR	80						+	+			+	+	+				0			+		
	TR	100						+	+			+	+	+							+		
<b>1353</b> Genapol X-080 fatty alcohol ethoxylate isoC13O(EO)8 (CH3)2CH(CH2)10O(CH2CH2O)8H C29H60O9	TR	20						+	+			+	+	+			+		+	+		+	+
	TR	40						+	+			+	+	+			+		+	+		+	+
	TR	60						+	+			+	+	+					+	+		+	+
	TR	80						+	+			+	+	+					+	+		+	+
	TR	100						+	+			+	+	+								+	
<b>1356</b> gelatine		20	+	+	+	+	+	+	+				+		+	+	+	+					
		40	+	+	+	+	+	+	+				+		+	+	+	+					
		60		+	+	+	+	+	+														
		80					+	+	+														
		100						+	+														
<b>1358</b> glutamic acid 2-aminoglutaric acid HO2CCH2CH2CH(NH2)CO2H C5H9NO4	wä	VL	20	+	+	+	+	+	+					+					+	+	+	+	+
	wä	VL	40		+	+	+	+	+					+						+	+	+	+
	wä	VL	60		+	+	+	+	+					+						+	+	+	+
	wä	VL	80					+	+					+						+	+		+
	wä	VL	100					+	+					+						+			
<b>1359</b> glycolic acid hydroxyacetic acid HOCH2CO2H C2H4O3	wä	37%	20	+	+	+	+	+	+			0	+	+	+	+	+	+	+	+		+	+
	wä	37%	40	+	+	+	+	+	+				+	+	+	+	+	+	+	+		+	+
	wä	37%	60	0	+	0	0	+	+						+	+	+	+	+	+		+	+
	wä	37%	80					+	+											+	+		
	wä	37%	100				0	+	+											+	+		

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## Chemical Resistance

Release Date: 2017-03-22

Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSIC	Carbon	Al2O3	Al2O3 Sensor		
1360	glycerol propanetriol  HOCH <sub>2</sub> CH(OH)CH <sub>2</sub> OH C <sub>3</sub> H <sub>8</sub> O <sub>3</sub>	TR	20	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
		TR	40	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
		TR	60	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
		TR	80			+	+	+	+	+			+	+	+	+	+	+	+	+	+				
		TR	100					+	+	+			+	+	+	+	+	+	+	+	+				
		TR	120						+	+			+	+	+	+					+				
1361	3-chloro-1,2-propanediol  ClCH <sub>2</sub> CH(OH)CH <sub>2</sub> OH C <sub>3</sub> H <sub>7</sub> ClO <sub>2</sub>	TR	20	+	+	+	+	+	+			+	+	+	-	+	0	+		+		+	+	+	
		TR	40	0	+			+	+	+			+	+	+		+		0		+		+	+	
		TR	60		+			+	+	+			+	+	+		+				+		+	+	
		TR	80					+	+	+			+	+	+						+				
		TR	100						+	+			+	+	+						+				
1362	uric acid 2,6,8-trihydroxypurine  C <sub>5</sub> H <sub>4</sub> N <sub>4</sub> O <sub>3</sub>	wä	GL	20	+	+	+	+	+	+	0		+	+	+	+	+	+	+	+	+	+	+	+	
		wä	GL	40	+	+	+	+	+	+			+	+	+	+	+	+	+	+	+	+	+	+	+
		wä	GL	60		+	+	+	+	+				+	+	+	+	+	+	+	+	+	+	+	+
		wä	GL	80					+	+	+				+		+		+	+	+				
		wä	GL	100						+	+				+					+	+				

**Abbreviations:** fe = humid; fl = liquid; gf = gaseous; tr = dry; wä = aqueous solution

GK = low concentration; GL = cold saturated solution; H = usual in trade; HK = high concentration; TR = technically pure; VL = diluted solution

+ = resistant; 0 = conditionally resistant; - = non-resistant



## Chemical Resistance

Release Date: 2017-03-22

	Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor	
<b>1363</b> urea carbonic acid diamide carbamide H2NCONH2 CH4N2O	wä	10%	20	+	+	+	+	+	+	+		+	+	+	+	+	+	+	+	+	+	+	+	+	
	wä	10%	40	+	+	+	+	+	+	+		+	+	+	+	+	+	+	+	+	+	+	+	+	
	wä	10%	60	-	+	+	+	+	+	+		+	+	+	+	+	+	+	+	+	+	+	+	+	
	wä	10%	80			+	+	+	+	+			+	+	+	+					+	+			
	wä	10%	100						+	+			+	+	+	+					+	+			
	wä	30%	20	+	+	+	+	+	+	+		+	+	+	+	+	+	+	+	+	+	+	+	+	+
	wä	30%	40	+	+	+	+	+	+	+		+	+	+	+	+	+	+	+	+	+	+	+	+	+
	wä	30%	60	-	+	+	+	+	+	+		+	+	+	+	+	+	+	+	+	+	+	+	+	+
	wä	30%	80			+	+	+	+	+			+	+	+	+					+	+	+		
	wä	30%	100					0	+	+			+	+	+	+					+	+			
	wä	GL	20	+	+	+	+	+	+	+		+	+	+	+	+	+	+	+	+	+	+	+	+	+
	wä	GL	40	+	+	+	+	+	+	+		+	+	+	+	+	+	+	+	+	+	+	+	+	+
	wä	GL	60	-	+	+	+	+	+	+		+	+	+	+	+	+	+	+	+	+	+	+	+	+
	wä	GL	80			+	+	+	+	+			+	+	+	+					+	+	+		
	wä	GL	100						+	+			+	+	+	+					+	+			
<b>1364</b> n-heptane CH3(CH2)5CH3 C7H16	TR		20	+	+	+	+	+	+	+	+	+	+	+	+	+	-	+	+	+	+	+	+	+	
	TR		40		0	0	0	+	+	+	+	+	+	+	+	0		+	0	+	+	+	+	+	
	TR		60		0	0	0	+	+	+		0	+	+	+			+	-	+	+	+	+	+	
	TR		80					+	+	+		0	+	+	+						+	+		+	
	TR		100					+	+	+			+	+	+						+	+		+	
<b>1365</b> n-hexane CH3(CH2)4CH3 C6H14	TR		20	+	+	+	+	+	+	+	+	+	+	+	+	+	-	+	+	+	+	+	+	+	
	TR		40		+	0	0	+	+	+	+	+	+	+	+	0		+	0	+	+	+	+	+	
	TR		60		0	-	-	+	+	+		0	+	+	+			+	-	+	+	+	+	+	

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## Chemical Resistance

Release Date: 2017-03-22

Condition	Concentration	Temperature [°C]	Material																							
			PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor			
1366	1,2,6-hexanetriol 1,2,6-trihydroxyhexane HO(CH <sub>2</sub> ) <sub>4</sub> CH(OH)CH <sub>2</sub> OH C <sub>6</sub> H <sub>14</sub> O <sub>3</sub>	TR	20	+	+	+	+		+	+																
		TR	40	+	+	+	+		+	+																
		TR	60	0	+	+	+		+	+																
		TR	80						+	+						0	+	+	+	+						
		TR	100						+	+						0	+	+	+	+						
1370	honey		20	+	+	+	+	+	+																	
			40	+	+	+	+	+	+																	
			60		0	+	+		+	+																
			80						+	+																
			100						+	+																
1371	hydrazine diamine H <sub>2</sub> NNH <sub>2</sub> H <sub>4</sub> N <sub>2</sub>	TR	20	+	+	+	+	-	+	+																
		TR	40		+	+	+		+	+																
		TR	60		+	+			+	+																
		TR	80						+	+																
		TR	100						+	+																
1372	hydrazine hydrate hydrazinium hydroxide H <sub>2</sub> NNH <sub>2</sub> • H <sub>2</sub> O H <sub>6</sub> N <sub>2</sub> O	TR	20	+	+	+	+	-	+	+	-															
		TR	40		+	+			+	+																
		TR	60		+	+			+	+																
		TR	80						+	+																
1373	hydroquinone 1,4-dihydroxybenzene quinol C <sub>6</sub> H <sub>4</sub> -1,4-(OH) <sub>2</sub> C <sub>6</sub> H <sub>6</sub> O <sub>2</sub>	wä	GL	20	+	+	+	+	+	+																
		wä	GL	40	+	0	+	+	+	+																
		wä	GL	60		-			+	+	+															
		wä	GL	80					+	+	+															
		wä	GL	100					+	+	+															

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## Chemical Resistance

Release Date: 2017-03-22

Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1.4301	V4A 1.4571	Hast-C 2.4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSIC	Carbon	Al2O3	Al2O3 Sensor		
<b>1374</b>	<b>hydroxylamine sulfate</b> hydroxylammonium sulfate  (H3NOH)2SO4 H8N2O6S	wä VL 20	+	+	+	+	+	+	+	+					+	+	+	+	+	+	+	+	+		
		wä VL 40	+	+	+	+	+	+	+					+	+	0	+	+	+	+	+	+	+	+	
		wä VL 60			+	+	+		+	+										+	+	+	+	+	+
		wä VL 80							+	+										+	+				
		wä VL 100							+	+										+	+				
<b>1377</b>	<b>isooctane</b> 2,2,4-trimethylpentane isobutyltrimethylmethane (CH3)2CHCH2C(CH3)3 C8H18	TR 20	+	+	+	+	+	+	+	-		+	+	+	+	-	+	0	+	+	+	+	+		
		TR 40		0	0	0	+	+	+				+	+	+		+		+	+	+	+	+	+	
		TR 60		0	-	-	+	+	+				+	+	+					+	+	+	+	+	+
		TR 80			-	-	+	+	+				+	+	+					+	+		+	+	+
		TR 100					+	+	+				+	+	+					+	+		+	+	+
<b>1378</b>	<b>2-propanol</b> Isopropyl alcohol isopropanol (CH3)2CHOH C3H8O	TR 20	+	+	+	+	+	+	+	-		+	+	+	0	+	+	0	+	+	+	+	+		
		TR 40	+	+	+	+	+	+	+			+	+	+	0	+	+	0	+	+	+	+	+	+	
		TR 60	0	+	+	+	+	+	+		0		+	+	+	-	+	+	0	+	+		+	+	
		TR 80					0	+	+				+	+	+		0	0		+	+		+	+	
		TR 100						+	+				+	+	+			-		+	+		+	+	
<b>1379</b>	<b>liquid manure</b>	20		+	+	+		+	+																
		40		+	+	+		+	+																
		60		+	+	+		+	+																
		80						+	+																
		100						+	+																
<b>1380</b>	<b>iodine</b>   I2	gf HK 20	-				+	+	+																
		gf HK 40	-				+	+	+																
		gf HK 60	-				+	+	+																
		gf HK 80						+	+																
		gf HK 100						+	+																

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## Chemical Resistance

Release Date: 2017-03-22

Condition	Concentration	Temperature [°C]	Material																					
			PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSIC	Carbon	Al2O3	Al2O3 Sensor	
<b>1381</b> iodine potassium iodide solution potassium polyiodide solution Kxly lyKx	wä 3% I2	20	0	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
	wä 3% I2	40	-	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
	wä 3% I2	60	-	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
	wä 3% I2	80					+	+	+										+	+				
	wä 3% I2	100					+	+	+										+	+				
<b>1383</b> hydriodic acid HI	wä VL	20	+				+	+	+										+	+	-	+	+	
	wä VL	40	0				+	+	+										+	+		+	+	
	wä VL	60					+	+	+										+	+		+	+	
	wä VL	80					+	+	+															
	wä VL	100					+	+	+															

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## Chemical Resistance

Release Date: 2017-03-22

Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor	
1384 potash lye potassium hydroxide  KOH HKO	wä	10%	20	+	+	+	+	+	+		+	0	0	+	+	+	+	+	+	+		+	+	
	wä	10%	40	+	+	+	+	+	+		+			+	+	+	-	+	+	+		+	+	
	wä	10%	60	+	+	+		+	+		+				+	+		+	+	+				
	wä	10%	80			+	-	+	+		+				+									
	wä	10%	100					+	+															
	wä	15%	20	+	+	+	+	-	+	+		+	0	0	+	+	+	0	+	+	+		+	+
	wä	15%	40	+	+	+	+		+	+		+			+	+	+	-	+	+	+		+	+
	wä	15%	60	0	+	+			+	+		+			+	+			+	+	+			
	wä	15%	80				-	+	+		+				+									
	wä	15%	100					+	+															
	wä	25%	20	+	+	+	+	-	+	+		+	0	0	+	+	+	0	+	+	+		+	+
	wä	25%	40	+	+	+	+		+	+		+			+	+	+	-	+	+	+		+	+
	wä	25%	60	0	+	+			+	+		+			+	+			+	+	+			
	wä	25%	80				-	+	+		+				+								-	-
	wä	25%	100					+	+															
	wä	40%	20	+	+	+	+	-	+	+		+	0	0	+	+	+	0	+	+	+		+	+
	wä	40%	40	+	+	+	+		+	+		+			+	+	+	-	+	+	+		+	+
	wä	40%	60	0	+	+			+	+					+	+			+	+	+			
	wä	40%	80				-	+	+		+				+								-	-
	wä	40%	100					+	+															
	wä	50%	20	+	+	+	+	-	+	+		+	0	0	+	+	+	-	+	+	+		+	+
	wä	50%	40	+	+	+	+		+	+		+			+	+	+	-	0	+	+		+	+
	wä	50%	60	0	+	+			+	+					+	+		0	+	+				
	wä	50%	80				-	+	+		+				+	0			-				-	-
	wä	50%	100					+	+															

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## Chemical Resistance

Release Date: 2017-03-22

	Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor
1385  KNO3	wä	10%	20	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
	wä	10%	40	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
	wä	10%	60	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
	wä	10%	80			+	+	+	+	+												+		+
	wä	10%	100					+	+	+												+		
	wä	GL	20	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
	wä	GL	40	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
	wä	GL	60	+	+	+	+	+	+	+			+	+	+	+	+	+	+	+	+	+	+	+
	wä	GL	80			+	+	+	+	+												+		+
	wä	GL	100					+	+	+												+		
1386 acetic acid potassium salt  CH3CO2K C2H3KO2	wä	GL	20	+	+	+	+	+	+	+		+			+		+			+	+	+	+	+
	wä	GL	40	+	+	+	+	+	+	+		+			+		+			+	+	+	+	+
	wä	GL	60		+	+	+	+	+	+		+			+		+			+	+	+	+	+
	wä	GL	80			+	+	+	+	+					+		+			+	+	+	+	+
	wä	GL	100					0	+	+					+					+	+			
1387 potassium bicarbonate  KHCO3 CHKO3	wä	GL	20	+	+	+	+	+	+	+		+	+	+	+	+	+	+	+	+	+	+	+	+
	wä	GL	40	+	+	+	+		+	+		+	+	+	+	+	+	+	+	+	+	+	+	+
	wä	GL	60		+	+	+		+	+		+	+	+	+	+	+	+	+	+	+	+	+	+
	wä	GL	80			+	+		+	+			+	+	+	-		+	-	+	+	+	+	+
	wä	GL	100						+	+			+	+	+					+	+			
1388  K2Cr2O7 Cr2K2O7	wä	GL	20	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
	wä	GL	40	+	+	+	+	+	+	+	+	+	+	+	+	0	+	+	+	+	+	+	+	+
	wä	GL	60	0	+	+	+	+	+	+		+	+	+	+		+	+	+	+	+	+	+	+
	wä	GL	80			+	+	+	+	+			+	+	+					+	+	+	+	+
	wä	GL	100					+	+	+			+	+	+					+	+			

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Release Date: 2017-03-22

Condition	Concentration	Temperature [°C]	Material																						
			PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor		
<b>1389</b> potassium bisulfate KHSO4 HKO4S	potassium hydrogensulfate	30%	20	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
		30%	40	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
		30%	60		+	+	+	+	+	+															
		30%	80			+	+	+	+	+															
		30%	100							+															
<b>1390</b> potassium bisulfite KHSO3 HKO3S	potassium hydrogensulfite	GL	20	+	+	+	+	+	+	+			+	+	+	+	+	+	+	+			+	+	
		GL	40	+	+	+	+	+	+	+			+	+	+	+	+	+	+	+			+	+	
		GL	60		+	+	+		+	+			+	+	+	+	+	+	+	+			+	+	
		GL	80			+	+		+	+			+	+		+			+	+			+	+	
		GL	100						+	+									+	+					
<b>1391</b> tartar L(+)-tartaric acid monopotassium salt KO2CCH(OH)CH(OH)CO2H C4H5KO6	potassium hydrogen-L-tartrate	GL	20	+	+	+	+	+	+	+					+	+	+	+	+	+	+	+	+	+	
		GL	40	+	+	+	+	+	+	+					+				+	+	+	+	+	+	
		GL	60		+	+	+	+	+	+					+				+	+	+	+	+	+	
		GL	80					+	+	+									+	+					
		GL	100					+	+	+									+	+					
<b>1392</b> K3BO3 BK3O3	potassium borate	VL	20	+	+	+	+	+	+	+			+	+	+	+	+	+	+	+	+	+	+	+	
		VL	40	+	+	+	+	+	+	+			+	+	+	+	+	+	+	+	+	+	+	+	
		VL	60	0	+	+	+	+	+	+			+	+	+	+	+	+	+	+	+	+	+	+	
		VL	80					+	+	+					+				+	+			+	+	
		VL	100					+	+	+					+				+	+					
		GL	20	+	+	+	+	+	+	+			+	+	+	+	+	+	+	+	+	+	+	+	
		GL	40	+	+	+	+	+	+	+			+	+	+	+	+	+	+	+	+	+	+	+	
		GL	60	0	+	+	+	+	+	+			+	+	+	+	+	+	+	+	+	+	+	+	
		GL	80					+	+	+					+				+	+			+	+	
		GL	100					+	+	+					+				+	+					

**Abbreviations:** fe = humid; fl = liquid; gf = gaseous; tr = dry; wä = aqueous solution

GK = low concentration; GL = cold saturated solution; H = usual in trade; HK = high concentration; TR = technically pure; VL = diluted solution

+ = resistant; 0 = conditionally resistant; - = non-resistant



## Chemical Resistance

Release Date: 2017-03-22

Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor	
1393 KBrO3 BrKO3	potassium bromate	wä	GL	20	+	+	+	+	+	+			0		+	+	+	+	+	+		+	+	
		wä	GL	40	+	+	+	+	+	+				0		+	+	+	+	+	+		+	+
		wä	GL	60	0	0	0	0	+	+	+			0		+	+	+	+	+	+		+	+
		wä	GL	80					+	+	+					-	+	+	+	+	+			
		wä	GL	100					+	+	+					-	+	+	+	+	+			
1394 KBr BrK	potassium bromide	wä	GL	20	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
		wä	GL	40	+	+	+	+	+	+		+	+	+	+	+	+	+	+	+	+	+	+	+
		wä	GL	60	0	+	+	+	+	+		+			+	+	+	+	+	+	+	+	+	+
		wä	GL	80					+	+	+				+	0	+	+	+	+	+		+	+
		wä	GL	100					+	+	+				+		+	+	+	+	+			
1395 potash K2CO3 CK2O3	potassium carbonate	wä	10%	20	+	+	+	+	0	+	+	+		+	+	+	+	+	+	+		+	+	
		wä	10%	40	+	+	+	+	-	+	+	+			+	+	0	+	+	+		+	+	
		wä	10%	60	0	+	+			+	+	+			+		+	-	+	+	+		+	
		wä	10%	80						+	+				+		+			+	+			
		wä	10%	100						+	+				+					+	+			
		wä	50%	20	+	+	+	+	-	+	+	+			+	+	+	0	+	+	+		+	+
		wä	50%	40	+	+	+	+	-	+	+	+			+		+	-	+	+	+		+	+
		wä	50%	60	0	+	+			+	+				+		+			+	+		+	+
		wä	50%	80						+	+				+		+			+	+			
		wä	50%	100						+	+				+					+	+			
		wä	GL	20	+	+	+	+	-	+	+	+			+	+	+	0	+	+	+		+	+
		wä	GL	40	+	+	+	+	-	+	+	+			+		+	-	+	+	+		+	+
		wä	GL	60	0	+	+			+	+				+		+			+	+		+	+
		wä	GL	80						+	+				+		+			+	+			
		wä	GL	100						+	+				+					+	+			

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## Chemical Resistance

Release Date: 2017-03-22

Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor	
1396	potassium chlorate	wä	GL	20	+	+	+	+	+	+				+	-	+	+	+	+	+	+	+	+	
		wä	GL	40	+	+	+	+	+	+			+	+	+	-	+	+	+	+	+	+	+	+
		wä	GL	60	0	+	+	+	+	+			+	+	+		+	+	+	+	+	+	+	+
		wä	GL	80						+	+						+	+		+	+			
		wä	GL	100						+	+							+		+	+			
KClO3																								
ClKO3																								
1397	potassium chloride	wä	GL	20	+	+	+	+	+	+				+	+	+	+	+	+	+	+	+	+	
		wä	GL	40	+	+	+	+	+	+					+	+	+	+	+	+	+	+	+	+
		wä	GL	60	+	+	+	+	+	+					+	+	+	+	+	+	+	+	+	+
		wä	GL	80			+	+	+	+					+		+	+	+	+	+	+	+	+
		wä	GL	100					+	+	+					+	+	+		+	+			
KCl																								
ClK																								
1398	potassium chlorite	wä	GL	20	+	+	+	+	+	+				+					+	+			+	
		wä	GL	40		+	+	+	+	+					+					+	+			+
		wä	GL	60		+	+	+	+	+					+					+	+			+
		wä	GL	80					+	+	+													
		wä	GL	100					+	+	+													
KClO2																								
ClKO2																								
1399	potassium chromate	wä	GL	20	+	+	+	+	+	+	+			+	+	0	+	+	+	+	+		+	
		wä	GL	40	+	+	+	+	+	+	+	+			+	0	+	+	+	+	+		+	
		wä	GL	60	+	+	+	+	+	+					+	-	+	+	0	+	+		+	
		wä	GL	80					+	+	+										+	+		+
		wä	GL	100					+	+	+										+	+		
K2CrO4																								
CrK2O4																								
1400	potassium cyanate	wä	GL	20					+	+													+	
		wä	GL	40						+	+													+
		wä	GL	60						+	+													+
		wä	GL	80						+	+													
		wä	GL	100						+	+													
KOCN																								
CKNO																								

**Abbreviations:** fe = humid; fl = liquid; gf = gaseous; tr = dry; wä = aqueous solution

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## Chemical Resistance

Release Date: 2017-03-22

Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor		
1401 KCN CKN	potassium cyanide	wä	GL	20	+	+	+	+	+	+	+			+	+	+	+	+	+	+	+	+	+		
		wä	GL	40	+	+	+	+	+	+	+	+			+	+	0	+	+	+	+	+	+	+	
		wä	GL	60	+	+	+		+	+					+		+	-	+	+	+	+			
		wä	GL	80					+	+					+		+		+	+	+	+			
		wä	GL	100					+	+					+		0		+		+	+			
1402 KF FK	potassium fluoride	wä	GL	20	+	+	+	+	+	+	+			+	+	+	+	+	+	+	+	+	+		
		wä	GL	40	+	+	+	+	+	+					+	+	+	+	+	+	+	+	+	+	
		wä	GL	60		+	+		+	+					+	+	+	+	+	+	+	+	+		
		wä	GL	80					+	+					+	0	+	+	+	+	+	+			
		wä	GL	100				0	+	+										+	+				
1403 KOCI CIKO	potassium hypochlorite	wä	13%	20	+	0	0	0	+	+			-	-	+	-	+	+	+	+	-	+	+		
		wä	13%	40	+	0	-	-	0	+	+				+		0	+		+	+		+	+	
		wä	13%	60	0				-	+	+									+	+				
		wä	13%	80					+	+										+					
		wä	13%	100					+	+										+					
1404 KIO3 IKO3	potassium iodate	wä	GL	20	+	+	+	+	+	+	+			+					+	+			+	+	
		wä	GL	40	+	+			+	+	+				+					+	+			+	+
		wä	GL	60					+	+	+				+					+	+			+	+
		wä	GL	80					+	+	+									+	+				
		wä	GL	100					+	+	+									+	+				
1405 KI IK	potassium iodide	wä	GL	20	+	+	+	+	+	+	+			+	+	+	+	+	+	+	+	+	+	+	
		wä	GL	40	+	+	+	+	+	+	+			+	+	+	0	+	+	+	+	+	+	+	
		wä	GL	60	+	+	+	+	+	+	+			+	+	+	-	+	+	+	+	+	+	+	
		wä	GL	80					+	+	+				+		+			+	+			+	+
		wä	GL	100					+	+	+				+					+	+				

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## Chemical Resistance

Release Date: 2017-03-22

Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor
			1406	potassium metaborate	wä	GL	20	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
		wä	GL	40	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
		wä	GL	60		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
K3B3O6		wä	GL	80				+	+	+				+					+	+		+	+
B3K3O6		wä	GL	100				+	+	+				+					+	+			
1407	potassium nitrite	wä	GL	20	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
		wä	GL	40	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
		wä	GL	60	0	+	+	+	+	+				+	0	+	+	+	+	+	+	+	+
		wä	GL	80					+	+				+		0	+		+	+		+	+
KNO2		wä	GL	100					+	+							+		+	+			
1408	potassium perchlorate	wä	VL	20	+	+	+	+	+	+	+	+	+	+	0	+	+	+	+	+	+	+	+
		wä	VL	40	+	+	+	+	+	+	+	+	+	+	0	+	+	+	+	+	+	+	+
		wä	VL	60	0		+	+	+	+				+	+	-	+	+	+	+	+	+	+
KClO4		wä	VL	80					+	+				+	+			+	+	+			
ClKO4		wä	VL	100					+	+									+	+			
		wä	GL	20	+	+	+	+	+	+	+	+	+	+	0	+	+	+	+	+	+	+	+
		wä	GL	40	+	+	+	+	+	+	+	+	+	+	0	+	+	+	+	+	+	+	+
		wä	GL	60	0	+	+	+	+	+				+	+		+	+	+	+	+	+	+
		wä	GL	80					+	+				+				0	+	+			
		wä	GL	100					+	+									+	+			
1409	potassium permanganate	wä	6%	20	+	+	+	+	+	+	+	+	+	+	0	+	+	+	+	+	+	+	+
	potassium manganate(VII)	wä	6%	40	+	+	+	+	+	+	+	+	+	+	-	+	+	+	+	+	+	+	+
		wä	6%	60	0	0	0	0	+	+	+				+	+	+	+	+	+	+	+	+
		wä	6%	80					+	+	+								+	+			
KMnO4		wä	6%	100					+	+									+	+			

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# Chemical Resistance

Release Date: 2017-03-22

Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor
<b>1410</b> potassium persulfate  K2S2O8 K2O8S2	wä	GL	20	+	+	+	+	+	+					+	-	+	+	+	+	+		+	+
	wä	GL	40	+	+	+	+	+	+					+	-	+	+	+	+	+		+	+
	wä	GL	60	0	+	+	+	+	+					+	-	+	+	+	+	+		+	+
	wä	GL	80					+	+	+					+		+	+	0	+	+		
	wä	GL	100						+	+								+		+	+		
<b>1411</b> potassium dihydrogenphosphate  KH2PO4 H2KO4P	wä	GL	20	+	+	+	+	+	+		+			+	+	+	+	+	+	+	+	+	+
	wä	GL	40	+	+	+	+	+	+		+			+	0	+	+	+	+	+	+	+	+
	wä	GL	60	0	+	+	+	+	+		+			+	-	+	+	+	+	+	+	+	+
	wä	GL	80					+	+	+					+	+	+	0	+	+		+	+
	wä	GL	100					+	+	+					+				+	+			
<b>1412</b> potassium sulfate  K2SO4 K2O4S	wä	GL	20	+	+	+	+	+	+		+	+	+	+	+	+	+	+	+	+	+	+	+
	wä	GL	40	+	+	+	+	+	+		+	+	+	+	+	+	+	+	+	+	+	+	+
	wä	GL	60	0	+	+	+	+	+		+	+	+	+	+	+	+	+	+	+	+	+	+
	wä	GL	80					+	+	+	+				+	+	+		+	+		+	+
	wä	GL	100					+	+	+					+		+		+	+			
<b>1413</b> potassium sulfide  K2S	wä	VL	20	+	+	+	+	0	+	+				+	+	+	+	-	+	+	+	+	+
	wä	VL	40	+	+	+	+	0	+	+				+	+	+	+		+	+	+	+	+
	wä	VL	60	0	+	+	+	0	+	+				+	+	+	+		+	+	+	+	+
	wä	VL	80						+	+				+	+				+	+			
	wä	VL	100						+	+					+				+	+			
<b>1414</b> potassium sulfite  K2SO3 K2O3S	wä	GL	20	+	+			+	+	+				+			+		+	+	+	+	+
	wä	GL	40	+	+			+	+	+				+			+		+	+	+	+	+
	wä	GL	60	0	+			+	+	+				+			+		+	+	+	+	+
	wä	GL	80					+	+	+				+					+	+		+	+
	wä	GL	100						+	+				+					+	+			

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## Chemical Resistance

Release Date: 2017-03-22

	Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor
<b>1415</b> potassium L-tartrate L-tartaric acid dipotassium salt KO <sub>2</sub> CCH(OH)CH(OH)CO <sub>2</sub> K C <sub>4</sub> H <sub>4</sub> K <sub>2</sub> O <sub>6</sub>	wä	GL	20	+	+	+	+	+	+	+		+			+	+	+	+	+	+	+	+	+	+
	wä	GL	40	+	+	+	+	+	+	+		+			+	+	+	+	+	+	+	+	+	+
	wä	GL	60		+	+	+	+	+	+		+			+	+	+	+	+	+	+	+	+	+
	wä	GL	80					+	+	+						+					+	+		
	wä	GL	100					+	+	+						+					+	+		
<b>1417</b> (+/-)-borneol C <sub>10</sub> H <sub>18</sub> O		TR	20	-	-	-	-	+	+	+				+	+	-	0	+	0		+		+	+
		TR	40					+	+	+											+		+	+
		TR	60						+	+											+		+	+
		TR	80						+	+											+		+	+
		TR	100						+	+											+		+	+
<b>1420</b> sodium hexafluorosilicate sodium fluorosilicate Na <sub>2</sub> SiF <sub>6</sub> F <sub>6</sub> Na <sub>2</sub> Si	wä	GL	20	+	+	+	+	+	+	+		+	+	+	+	+	+	+	+	+	+	+	+	
	wä	GL	40	+	+	+	+	+	+	+		+	+	+	+	+	+	+	+	+	+	+	+	
	wä	GL	60	0	+	+	+	0	+	+		+	+	+	+	+	+	+	+	+	+	+	+	
	wä	GL	80					-	+	+											+	+		
	wä	GL	100						+	+											+	+		
<b>1421</b> silicic acid orthosilicic acid H <sub>4</sub> SiO <sub>4</sub> = Si(OH) <sub>4</sub> H <sub>4</sub> O <sub>4</sub> Si	wä	GK	20	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
	wä	GK	40	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
	wä	GK	60	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
	wä	GK	80					+	+	+			+	+	+		+	+	+	+	+	+	+	+
	wä	GK	100					+	+	+			+	+	+		+	+	+	+	+	+	+	+

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## Chemical Resistance

Release Date: 2017-03-22

	Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1.4301	V4A 1.4571	Hast-C 2.4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor		
1423	gf	carbon dioxide	20	+	+	+	+	+	+	+						+	+	+	+							
			40	+	+	+	+	+	+	+	+						+	+	+	+						
			60	+	+	+	+	+	+	+	+		+					+	+	+	+					
			80				+	+	+	+	+								+	+	+					
			100							+	+	+								+						
			120							+	+	+														
1424	gf	carbon monoxide	20	+	+	+	+	+	+	+							+	+	+	+						
			40	+	+	+	+	+	+	+	+							+	+	+	+					
			60	+	+	+	+	+	+	+	+		+					+	+	+	+					
			80				+	+	+	+	+								+	+	+					
			100							+	+	+								+						
			120							+	+	+														
1425	wä	mixed acid: HCl 27%, HNO3 18%	20	+	-	-	-	0	+	+	-		-	-	-	-	-	0	0	+	+	-	+			
			40	0						+	+											+		+		
			60							+	+															
			80							+	+															
			100							+	+															
1426	guajacol/cresol-mixture	creosote	20	-					+	+		-	+	+	+	-	-			+	+		+	+		
			40							+	+			+	+	+					+	+		+	+	
			60							+	+			+	+	+					+	+		+	+	
			80							+	+			+	+	+					+	+		+	+	
			100							+	+			+	+	+							+		+	
			120							+	+			+	+	+										

**Abbreviations:** fe = humid; fl = liquid; gf = gaseous; tr = dry; wä = aqueous solution

GK = low concentration; GL = cold saturated solution; H = usual in trade; HK = high concentration; TR = technically pure; VL = diluted solution

+ = resistant; 0 = conditionally resistant; - = non-resistant



## Chemical Resistance

Release Date: 2017-03-22

Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor
<b>1427</b> cresol (o-, m-, a. p-) methylphenol (o-, m-, a. p-)	wä	GL	20	0	+	+	+	+	+	+	-	+	+	+	0	-	+	0	+	+	+	+	+
	wä	GL	40		+	+	+	+	+			+	+	+	0		+		+	+	+	+	+
	wä	GL	60			+	+	+	+			+	+	+					+	+	+	+	+
	wä	GL	80					0	+	+		+	+	+					+	+	+	+	+
	wä	GL	100						+	+		+	+	+					+	+	+	+	+
<b>1428</b> cresol sulfonic acid CH3C6H3(OH)SO3H C7H8O4S	wä	GL	20	+	+				+	+				+	-	-	+	-	+	+	+	+	+
	wä	GL	40	+					+	+				+			0		+	+	+	+	+
	wä	GL	60	+					+	+				+					+	+	+	+	+
	wä	GL	80						+	+				+						+	+	+	+
	wä	GL	100						+	+				+						+	+	+	+
<b>1429</b> copper(I) chloride CuCl ClCu	wä	GL	20	+	+	+	+	+	+	+	+			+	+	+	+	+	+	+	+	+	+
	wä	GL	40	+	+	+	+	+	+	+	+			+	+	+	+	+	+	+	+	+	+
	wä	GL	60		+	+	+	+	+	+				+	0	+	+	0	+	+	+	+	+
	wä	GL	80					+	+	+				+		+	+		+	+	+	+	+
	wä	GL	100					+	+					+					+	+	+		
<b>1431</b> copper(II) acetate arsenate(III) Schweinfurter Green 3Cu(AsO2)2 • Cu(CH3CO2)2 C4H6As6Cu4O16	wä	GL	20	+	+	+	+		+	+					+	+	+	+					
	wä	GL	40		+	+	+		+	+					+	+	+	+					
	wä	GL	60						+	+					0	+	+	0					
	wä	GL	80						+	+						+	+						
	wä	GL	100						+	+													
<b>1432</b> copper(II) carbonate basic copper(II) hydroxide carbonate copper(II) carbonate hydroxide CuCO3 • Cu(OH)2 CH2Cu2O5	wä	GL	20	+	+	+	+		+	+	+			+	+	+	+	+	+	+	+	+	+
	wä	GL	40	+	+	+	+		+	+	+			+	+	+	+	+	+	+	+	+	+
	wä	GL	60		+	+	+		+	+				+	0	+	+	0	+	+	+	+	+
	wä	GL	80						+	+				+		+	+		+	+	+	+	+
	wä	GL	100						+	+				+					+	+	+	+	+

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GK = low concentration; GL = cold saturated solution; H = usual in trade; HK = high concentration; TR = technically pure; VL = diluted solution

+ = resistant; 0 = conditionally resistant; - = non-resistant



## Chemical Resistance

Release Date: 2017-03-22

Condition	Concentration	Temperature [°C]	Material																									
			PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor					
1433  CuCl2 Cl2Cu	copper(II) chloride	wä	GL	20	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+				
		wä	GL	40	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+			
		wä	GL	60	+	+	+	+	+	+	+	+	+	+	0	+	+	+	+	+	+	+	+	+	+	+		
		wä	GL	80					+	+	+					+	+			+	+	+	+	+	+	+		
		wä	GL	100						+	+									+	+	+	+					
1434  CuCN CCuN	copper(I) cyanide	wä	GL	20	+	+	+	+	+	+	+				+	+	+	+	+	+	+	+	+	+	+			
		wä	GL	40	+	+	+	+	+	+	+				+	+	+	+	+	+	+	+	+	+	+	+		
		wä	GL	60		+	+	+	+	+	+				+	0	+	+	0	+	+	+	+	+	+	+	+	
		wä	GL	80					+	+	+				+		+	+			+	+	+	+	+	+	+	
		wä	GL	100						+	+				+						+	+	+	+	+	+	+	
1435  Cu(NO3)2 CuN2O6	copper(II) nitrate	wä	30%	20	+	+	+	+	+	+	+			+	+	+	+	+	+	+	+	+	+	+	+	+		
		wä	30%	40	+	+	+	+	+	+	+			+	+	+	+	+	+	+	+	+	+	+	+	+	+	
		wä	30%	60	0	+	+	+	+	+	+			+	+	+	0	+	+	0	+	+	+	+	+	+	+	+
		wä	30%	80	-				+	+	+			+	+	+		+	+			+	+	+	+	+	+	
		wä	30%	100					+	+	+			+	+	+					+	+						
		wä	50%	20	+	+	+	+	+	+	+					+	+	+	+	+	+	+	+	+	+	+	+	
		wä	50%	40	+	+	+	+	+	+	+					+	+	+	+	+	+	+	+	+	+	+	+	
		wä	50%	60	0	+	+	+	+	+	+					0	+	+	0	+	+	+	+	+	+	+	+	+
		wä	50%	80					+	+	+					+	+				+	+	+	+	+	+	+	
		wä	50%	100						+	+										+	+						
		wä	GL	20	+	+	+	+	+	+	+					+	+	+	+	+	+	+	+	+	+	+	+	
		wä	GL	40	+	+	+	+	+	+	+					+	+	+	+	+	+	+	+	+	+	+	+	
		wä	GL	60	0	+	+	+	+	+	+					0	+	+	0	+	+	+	+	+	+	+	+	
		wä	GL	80					+	+	+					+	+				+	+	+	+	+	+	+	
		wä	GL	100						+	+										+	+						

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GK = low concentration; GL = cold saturated solution; H = usual in trade; HK = high concentration; TR = technically pure; VL = diluted solution

+ = resistant; 0 = conditionally resistant; - = non-resistant



## Chemical Resistance

Release Date: 2017-03-22

Condition	Concentration	Temperature [°C]	Material																							
			PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor			
1436	copper(II) sulfate	wä	GL	20	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		
		wä	GL	40	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
		wä	GL	60	+	+	+	+	+	+	+	+	+	+	0	+	+	+	0	+	+	+	+	+	+	+
		wä	GL	80					+	+	+	+	+	+	+	+	+	+			+	+	+	+	+	+
		wä	GL	100											+	+	+					+	+			
CuSO4																										
CuO4S																										
1437	copper(II) fluoride	wä	VL	20	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
		wä	VL	40	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
		wä	VL	60		+	+			+	+					0	+	+	0	+	+			+		
		wä	VL	80						+	+						+	+			+	+				
		wä	VL	100						+	+										+	+				
CuF2																										
1438	copper tetramine compounds	wä	VL	20	+					+	+				+	+	+	+	+	+	+	+	+	+	+	
		wä	VL	40						+	+					+	+	+	+	+	+	+	+	+	+	+
		wä	VL	60						+	+					0	+	+	0	+	+			+	+	+
		wä	VL	80						+	+					+	+	+			+	+				
		wä	VL	100						+	+					+					+	+				
1439	D(+)-lactose	wä	VL	20	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
		wä	VL	40	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
		wä	VL	60	0	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
		wä	VL	80			+	+	+	+	+					+	+	+	+	+	+	+	+	+	+	+
		wä	VL	100						+	+	+	+	+	+			+			+	+	+	+		
		wä	GL	20	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
		wä	GL	40	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
		wä	GL	60	0	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
		wä	GL	80			+	+	+	+	+					+	+	+	+	+	+	+	+	+	+	+
wä	GL	100						+	+	+	+	+	+			+			+	+	+	+				

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GK = low concentration; GL = cold saturated solution; H = usual in trade; HK = high concentration; TR = technically pure; VL = diluted solution

+ = resistant; 0 = conditionally resistant; - = non-resistant



## Chemical Resistance

Release Date: 2017-03-22

Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor			
<b>1440</b>	lanolin	TR	20	+	+	+	+	+	+	+	+	+	+	+	+	0	+	0	+	+	+	+	+	+		
		TR	40	0	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
		TR	60	-	0	0	0	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
		TR	80	-				+	+	+			+	+	+	-	-	-	-			+		+	+	
		TR	100	-				+	+	+			+	+	+	-	-	-	-			+		+	+	
		TR	120	-				+	+	+			+	+	+	-	-	-	-			+		+	+	
<b>1441</b>	latex		20		+	+	+		+	+					+		+									
			40		+	+	+		+	+																
			60		+	+	+		+	+																
			80						+	+						+										
			100						+	+																
<b>1442</b>	lauric acid dodecanoic acid  CH <sub>3</sub> (CH <sub>2</sub> ) <sub>10</sub> CO <sub>2</sub> H C <sub>12</sub> H <sub>24</sub> O <sub>2</sub>	TR	20					+	+	+													+	+		
		TR	40					+	+	+													+	+		
		TR	60					+	+	+													+	+		
		TR	80					+	+	+													+	+		
		TR	100					+	+	+														+	+	
		TR	120					+																		
<b>1443</b>	lauroyl chloride dodecanoyl chloride CH <sub>3</sub> (CH <sub>2</sub> ) <sub>10</sub> COCl C <sub>12</sub> H <sub>23</sub> ClO	TR	20	-				+	+	+										+	+		+	+		
		TR	40					+	+	+										+	+		+	+		
		TR	60					+	+	+											+		+	+		
		TR	80					+	+	+											+		+	+		
		TR	100					+	+	+											+		+			
		TR	120					+	+																	

**Abbreviations:** fe = humid; fl = liquid; gf = gaseous; tr = dry; wä = aqueous solution

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+ = resistant; 0 = conditionally resistant; - = non-resistant



## Chemical Resistance

Release Date: 2017-03-22

Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor
<b>1444</b> lauryl alcohol 1-dodecanol CH3(CH2)11OH C12H26O	TR	20	+				+	+	+			+	+	+		·	+		+	+		+	+
	TR	40	+				+	+	+			+	+	+		·	+		+	+		+	+
	TR	60	+				+	+	+			+	+	+					+	+		+	+
	TR	80						+	+			+	+	+					+	+		+	+
	TR	100						+	+			+	+	+					+	+		+	+
	TR	120					+	+				+	+	+						+		+	+
<b>1446</b> cod-liver oil fish liver oil		20	+	+	+	+		+	+			+	+	+		-			+	+		+	+
		40		+				+	+			+	+	+					+	+		+	+
		60		0				+	+			+	+	+					+	+		+	+
		80						+	+			+	+	+						+		+	+
		100						+	+			+	+	+						+		+	+
		120					+	+				+	+	+						+		+	+
<b>1447</b> light petrol petroleum ether benzine	TR	20	+	+	+	+	+	+	+		+	+	+	+	+	-	+	-	+	+		+	+
	TR	40	+	0	0	0	+	+	+		+	+	+	+	0	+			+	+		+	+
	TR	60	+	-	-	-	+	+	+			+	+	+			0		+	+		+	+
	TR	80					+	+	+			+	+	+			-		+	+		+	+
	TR	100					+	+	+			+	+	+					+	+		+	+
	TR	120					+	+	+			+	+	+					+	+		+	+
<b>1448</b> light oil		20					+	+	+			+	+	+					+	+		+	+
		40					+	+	+			+	+	+					+	+		+	+
		60					+	+	+			+	+	+					+	+		+	+
		80						+	+			+	+	+						+		+	+
		100						+	+			+	+	+						+		+	+
		120						+	+			+	+	+						+		+	+

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## Chemical Resistance

Release Date: 2017-03-22

	Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSIC	Carbon	Al2O3	Al2O3 Sensor		
<b>1450</b>		linseed oil	TR	20	+	+	+	+	+	+	+	+	+	+	+	+	0	+	+	+	+	+	+	+		
			TR	40	0	+	+	+	+	+	+	+	+	+	+	+	+	+	+	0	+	+	+	+	+	
			TR	60	-	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	-	+	+	+	+	+
			TR	80		-	+	+	+	+	+	+			+	+	+						+		+	+
			TR	100				+	+	+	+	+			+	+	+							+		+
			TR	120					+						+	+	+							+		+
<b>1451</b>	gf	lighting gas, benzene-free	HK	20	+	+	+	+	+	+			+	+	+	+	-	+	+							
			HK	40	+					+	+															
			HK	60						+	+															
			HK	80						+	+															
			HK	100						+	+															
<b>1452</b>		liqueurs	H	20	+	+	+	+	+	+			+	+	+	+	+	+	+	+						
			H	40	+	+			+	+	+															
			H	60					+	+	+															
			H	80					+	+	+															
			H	100						+	+															
<b>1453</b>		linoleic acid cis,cis-9,12-octadecadienoic acid  H3C(CH2)4CH=CHCH2CH=CH(CH2)7CO2H C18H32O2	TR	20				+	+	+			+	+	+		-			+	+		+	+		
			TR	40					+	+	+			+	+	+					+	+		+	+	
			TR	60					+	+	+			+	+	+					+	+		+	+	
			TR	80					+	+	+			+	+	+							+		+	+
			TR	100					+	+	+			+	+	+							+		+	+
			TR	120					+	+	+			+	+	+							+		+	+

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# Chemical Resistance

Release Date: 2017-03-22

		Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor		
1455	lithium bromide	wä	GL	20	+	+	+	+	+	+	+	-	+			+		+	+		+	+	+	+	+	+	
		wä	GL	40	+	+	+	+	+	+	+		+				+		+	+		+	+	+	+	+	+
		wä	GL	60		+	+	+	+	+	+						+		+	+		+	+	+	+	+	+
		wä	GL	80						+	+	+					+		+	+		+	+	+	+	+	+
		wä	GL	100						+	+	+					+					+	+	+	+	+	+
LiBr																											
BrLi																											
1456	lithium carbonate	wä	GL	20	+	+	+	+	-	+	+	-	+			+		+	0		+	+		+	+		
		wä	GL	40	+	+	+	+	-	+	+		+				+		+	-		+	+		+	+	
		wä	GL	60	0	+	+		-	+	+						+					+	+				
		wä	GL	80						+	+						+						+				
		wä	GL	100						+	+						+						+				
Li2CO3																											
CLi2O3																											
1457	lithium chloride	wä	GL	20	+	+	+	+	+	+	+	-	+			+		+	+		+	+	+	+	+		
		wä	GL	40	+	+	+	+	+	+	+		+				+		+	+		+	+	+	+	+	
		wä	GL	60		+	+	+	+	+	+						+		+	+		+	+	+	+	+	
		wä	GL	80					+	+	+						+		+	+		+	+	+	+	+	
		wä	GL	100					+	+	+						+					+	+				
LiCl																											
CLi																											
1459	lithium hydroxide	wä	GL	20	+	+	+	+	-	+	+	-				+		+	-		+	+		+	+		
		wä	GL	40	+	+	+	+		+	+						+		+			+	+		+	+	
		wä	GL	60		+	+			+	+						+					+	+				
		wä	GL	80				-		+	+						+						+				
		wä	GL	100						+	+												+				
LiOH																											
HLiO																											
1460	lithium sulfate	wä	GL	20	+	+	+	+	+	+	+	-	+			+		+	+		+	+	+	+	+		
		wä	GL	40	+	+	+	+	+	+	+		+				+		+	+		+	+	+	+	+	
		wä	GL	60	0	+	+	+	+	+	+						+		+	+		+	+	+	+	+	
		wä	GL	80					+	+	+						+		+	+		+	+	+	+	+	
		wä	GL	100					+	+	+						+					+	+	+	+	+	
Li2SO4																											
Li2O4S																											

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GK = low concentration; GL = cold saturated solution; H = usual in trade; HK = high concentration; TR = technically pure; VL = diluted solution

+ = resistant; 0 = conditionally resistant; - = non-resistant



## Chemical Resistance

Release Date: 2017-03-22

		Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor	
<b>1461</b>	air	gf		20	+	+	+	+	+	+	+	+						+	+	+	+					
		gf		40	+	+	+	+	+	+	+	+							+	+	+	+				
		gf		60		+	+	+	+	+	+	+							+	+	+	+				
		gf		80						+	+	+							+	+	+	+				
		gf		100						+	+	+								+	+	+				
		gf		120						+	+	+										+				
<b>1462</b>	magnesium carbonate basic  4MgCO <sub>3</sub> • Mg(OH) <sub>2</sub>	wä	GL	20	+	+	+	+	+	+	+		+			+	+	+	+	+	+	+	+	+	+	
		wä	GL	40	+	+	+	+	+	+	+		+				+	+	+	+	+	+	+	+	+	+
		wä	GL	60		+	+	+	+	+	+		+				+	+	+	+	+	+	+		+	+
		wä	GL	80					+	+	+						+		+	+	+	+	+			
		wä	GL	100						+	+						+			+		+	+			
<b>1463</b>	magnesium chloride  MgCl <sub>2</sub> Cl <sub>2</sub> Mg	wä	10%	20	+	+	+	+	+	+	+		+			+	+	+	+	+	+	+	+	+	+	
		wä	10%	40	+	+	+	+	+	+	+		+				+	+	+	+	+	+	+	+	+	+
		wä	10%	60		+	+	+	+	+	+		+				+	+	+	+	+	+	+	+	+	+
		wä	10%	80			+	+	+	+	+						+		+	+	+	+	+	+	+	+
		wä	10%	100					+	+	+						+		+		+	+	+	+		
		wä	GL	20	+	+	+	+	+	+	+		+				+	+	+	+	+	+	+	+	+	+
		wä	GL	40	+	+	+	+	+	+	+		+				+	+	+	+	+	+	+	+	+	+
		wä	GL	60		+	+	+	+	+	+		+				+	+	+	+	+	+	+	+	+	+
		wä	GL	80			+	+	+	+	+						+		+	+	+	+	+	+	+	+
wä	GL	100					+	+	+						+			+		+	+	+	+	+		

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## Chemical Resistance

Release Date: 2017-03-22

		Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor	
1464	magnesium fluoride	wä	GL	20	+	+	+	+	+	+	+					+	+	+	+	+	+	+	+	+	+	
		wä	GL	40	+	+	+	+	+	+	+						+	+	+	+	+	+	+	+	+	+
		wä	GL	60		+	+			+	+	+					+		+	+	+	+	+	+	+	
		wä	GL	80						+	+	+					+		+	+		+	+			
		wä	GL	100						+	+	+					+					+	+			
MgF2																										
F2Mg																										
1465	magnesium hydroxide	wä	GL	20	+	+	+	+	+	+	+		+			+	+	+	+	+	+		+	+	+	
		wä	GL	40		+	+	+	+	+	+		+				+	+	+	+	+	+		+	+	+
		wä	GL	60		+	+			+	+	+		+			+		+	+	+	+		+	+	
		wä	GL	80						+	+	+					+		+	+		+				
		wä	GL	100						+	+	+					+					+				
Mg(OH)2																										
H2MgO2																										
1466	magnesium nitrate	wä	GL	20	+	+	+	+	+	+	+		+			+	+	+	+	+	+	+	+	+	+	
		wä	GL	40	+	+	+	+	+	+	+		+				+	+	+	+	+	+	+	+	+	+
		wä	GL	60	+	+	+	+	+	+	+		+				+	+	+	+	+	+	+		+	+
		wä	GL	80						+	+	+					+		+	+		+	+		+	+
		wä	GL	100						+	+	+					+					+	+			
Mg(NO3)2																										
MgN2O6																										
1467	magnesium oxide	wä	GL	20	+	+	+	+	+	+	+		+			+		+	+		+	+	+	+	+	
		wä	GL	40	+	+	+	+	+	+	+		+				+		+	+		+	+	+	+	+
		wä	GL	60		+	+	+	+	+	+		+				+		+	+		+	+	+	+	+
		wä	GL	80						+	+						+					+	+		+	+
		wä	GL	100						+	+						+					+	+			
MgO																										

**Abbreviations:** fe = humid; fl = liquid; gf = gaseous; tr = dry; wä = aqueous solution

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# Chemical Resistance

Release Date: 2017-03-22

Condition	Concentration	Temperature [°C]	Material																						
			PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor		
1468 MgSO4 MgO4S	magnesium sulfate	wä 10% 20	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
		wä 10% 40	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
		wä 10% 60	0	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
		wä 10% 80			+	+	+	+	+	+					+		+			+	+	+	+	+	+
		wä 10% 100							+	+	+				+					+	+	+	+		
		wä GL 20	+	+	+	+	+	+	+	+	+				+	+	+	+	+	+	+	+	+	+	+
		wä GL 40	+	+	+	+	+	+	+	+	+	+			+	+	+	+	+	+	+	+	+	+	+
		wä GL 60		+	+	+	+	+	+	+	+	+			+	+	+	+	+	+	+	+	+	+	+
		wä GL 80			+	+	+	+	+	+	+	+			+	+	+	+	+	+	+	+	+	+	+
wä GL 100							+	+	+				+					+	+	+	+				
1469 MgSO3 MgO3S	magnesium sulfite	wä GL 20	+	+	+	+	+	+	+	+					+	+	+	+	+	+	+	+	+	+	
		wä GL 40	+	+	+	+	+	+	+	+					+	+	+	+	+	+	+	+	+	+	+
		wä GL 60		+	+	+	+	+	+	+					+	+	+	+	+	+	+	+	+	+	+
		wä GL 80			+	+	+	+	+	+					+	+	+	+	+	+	+	+	+	+	+
		wä GL 100							+	+	+				+					+	+	+	+		
1470 cis-2-butene-1,4-dioic acid HO2CCH=CHCO2H C4H4O4	maleic acid	wä GL 20	+	+	+	+	+	+	+	+	+	+	+	-	0	+	-	+	+	+	+	+	+	+	
		wä GL 40	+	+	+	+	+	+	+	+	+	+	+	+	-	+			+	+	+	+	+	+	+
		wä GL 60	0	+	+	+	+	+	+	+	+	+	+	+		+			+	+	+	+	+	+	+
		wä GL 80							+	+	+			+	+				-		+	+	+	+	+
		wä GL 100							+	+	+				+					+	+	+	+	+	+
1471 MnCl2 Cl2Mn	manganese(II) chloride	wä GL 20	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
		wä GL 40	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
		wä GL 60	0	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
		wä GL 80			+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
		wä GL 100							+	+	+				+					+	+	+	+	+	+

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## Chemical Resistance

Release Date: 2017-03-22

Condition	Concentration	Temperature [°C]	Material																								
			PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor				
1472	manganese dioxide manganese(IV) oxide MnO2	TR	20	+						+	+						+	+									
		TR	40							+	+						+	+									
		TR	60							+	+						+	+									
		TR	80							+	+						+	+									
		TR	100							+	+						+	+									
1473	manganese(II) sulfate MnSO4 MnO4S	wä	GL	20	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
		wä	GL	40	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
		wä	GL	60	0	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
		wä	GL	80			+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
		wä	GL	100					+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
1474	marmelade		20	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
			40	0	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
			60	0	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
			80			+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
			100					+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
1476	molasses		20	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
			40	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
			60	0	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
			80					+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
			100					+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
1477	methane CH4	gf	HK	20	+	+	+	+	+	+	+	+	+	+	+	0	+	0	+								
		gf	HK	40					+	+	+	+	+	+	+				+								
		gf	HK	60					+	+	+	+	+	+	+					+							
		gf	HK	80					+	+	+	+	+	+	+					+							
		gf	HK	100					+	+	+	+	+	+	+					+							

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Release Date: 2017-03-22

Condition	Concentration	Temperature [°C]	Material																					
			PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor	
<b>1478</b> malonic acid propanedioic acid methanedicarboxylic acid CH <sub>2</sub> (CO <sub>2</sub> H) <sub>2</sub> C <sub>3</sub> H <sub>4</sub> O <sub>4</sub>	wä	GL	20	0	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
	wä	GL	40		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
	wä	GL	60		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
	wä	GL	80							+	+								+	+				
	wä	GL	100							+	+								+	+				
<b>1479</b> methanol methyl alcohol CH <sub>3</sub> OH CH <sub>4</sub> O	TR	TR	20	+	+	+	+	+	+	+	-	+	+	+	+	-	+	-	+	+	+	+	+	+
	TR	TR	40	+	+	+	+	+	+	+		+	+	+	+	+		+	+	+	+	+	+	+
	TR	TR	60	0	+	+	+	+	+	+		+	+	+	+	0		+	+	+	+	+	+	+
<b>1480</b> methanesulfonic acid methylsulfuric acid CH <sub>3</sub> SO <sub>3</sub> H CH <sub>4</sub> O <sub>3</sub> S	TR	TR	20	0	+	0	0	+	+	+	-	-			+				+	+	-	+	+	+
	TR	TR	40			-	-	+	+	+					+				+	+			+	+
	TR	TR	60			-	-	+	+	+					+				+	+			+	+
	TR	TR	80					0	+	+										+			+	
	TR	TR	100						+	+										+				
<b>1481</b> methyl acetate acetic acid methyl ester CH <sub>3</sub> CO <sub>2</sub> CH <sub>3</sub> C <sub>3</sub> H <sub>6</sub> O <sub>2</sub>	TR	TR	20	-	+	+	+	+	+	+	-	-	+	+	+	-	-	-	+	+			+	+
	TR	TR	40		0	0	0	0	+	+			+	+	+				+	+			+	+
	TR	TR	60		-	-	-	-	+	+			+	+	+				+	+			+	+
<b>1482</b> methylamine aminomethane CH <sub>3</sub> NH <sub>2</sub> CH <sub>5</sub> N	wä	32%	20	0	+	+	+	0	+	+					+	-	+		+	+	+	+	+	+
	wä	32%	40						+	+					+				+	+			+	+
	wä	32%	60						+	+					+				+	+			+	+

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## Chemical Resistance

Release Date: 2017-03-22

		Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor	
<b>1483</b> bromomethane  CH3Br	methylbromide	gf	TR	20	-	0	-	-	+	+	+						-	-	+	-	+					
		gf	TR	40		-	-		+	+	+									+		+				
		gf	TR	60		-	-		+	+	+										+		+			
		gf	TR	80					+	+	+											+				
		gf	TR	100					+	+	+											+				
<b>1484</b> chloromethane  CH3Cl	methyl chloride	gf	TR	20	-	0	-	-	+	+	+							-	-	-	-	+				
		gf	TR	40					+	+	+											+				
		gf	TR	60					+	+	+											+				
		gf	TR	80					+	+	+											+				
		gf	TR	100					+	+	+											+				
<b>1485</b> hexahydrotoluene  C6H11CH3 C7H14	methylcyclohexane		TR	20		0	-	-	+	+				+	+	+			-		+	+		+	+	
			TR	40		0				+	+				+	+	+					+	+		+	+
			TR	60						+	+				+	+	+					+	+		+	+
			TR	80						+	+				+	+	+					+	+		+	+
			TR	100						+	+				+	+	+					+	+		+	+
<b>1487</b> formic acid methyl ester  HCO2CH3 C2H4O2	methyl formate		TR	20	-				+	+	-	-	+	+	+						+	+		+	+	
			TR	40					+	+				+	+	+						+	+		+	+
<b>1488</b> 4-methyl-2-pentanone isobutyl methyl ketone (CH3)2CHCH2COCH3 C6H12O	methyl isobutyl ketone (MIBK)		TR	20	-				+	+	-	-	+	+	+				-		+	+		+	+	
			TR	40					+	+				+	+	+						+	+		+	+
			TR	60					+	+				+	+	+						+	+		+	+
			TR	80					+	+				+	+	+							+		+	+

**Abbreviations:** fe = humid; fl = liquid; gf = gaseous; tr = dry; wä = aqueous solution

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## Chemical Resistance

Release Date: 2017-03-22

Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor
<b>1489</b> methyl methacrylate methacrylic acid methyl ester  CH <sub>2</sub> =C(CH <sub>3</sub> )CO <sub>2</sub> CH <sub>3</sub> C <sub>5</sub> H <sub>8</sub> O <sub>2</sub>	TR	20	-									+	+	+					+	+		+	+
	TR	40										+	+	+					+	+		+	+
	TR	60										+	+	+					+	+		+	+
	TR	80										+	+	+						+		+	+
<b>1490</b> methyl salicylate salicylic acid methyl ester 2-hydroxybenzoic acid methyl ester 2-(OH)C <sub>6</sub> H <sub>4</sub> CO <sub>2</sub> CH <sub>3</sub> C <sub>8</sub> H <sub>8</sub> O <sub>3</sub>	TR	20	-	+	+	+		+	+	-	-	+	+	+					+	+		+	+
	TR	40		+	+	+		+	+			+	+	+					+	+		+	+
	TR	60						+	+			+	+	+					+	+		+	+
	TR	80						+	+			+	+	+						+		+	+
	TR	100						+	+			+	+	+						+		+	+
<b>1491</b> dimethyl sulfate sulfuric acid dimethyl ester  (CH <sub>3</sub> ) <sub>2</sub> SO <sub>2</sub> C <sub>2</sub> H <sub>6</sub> O <sub>4</sub> S	TR	20	-					+	+		-	+	+	+	-	-	0	+	+	+		+	+
	TR	40						+	+			+	+	+				+	+	+		+	+
	TR	60						+	+			+	+	+			0	+	+	+		+	+
	TR	80						+	+			+	+	+						+			
	TR	100						+	+			+	+	+						+			
<b>1492</b> milk		20	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
		40	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
		60	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
		80			+	+	+	+	+			+	+	+					+	+	+	+	+
		100					+	+	+			+	+	+					+	+	+	+	+

**Abbreviations:** fe = humid; fl = liquid; gf = gaseous; tr = dry; wä = aqueous solution

GK = low concentration; GL = cold saturated solution; H = usual in trade; HK = high concentration; TR = technically pure; VL = diluted solution

+ = resistant; 0 = conditionally resistant; - = non-resistant



## Chemical Resistance

Release Date: 2017-03-22

Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor	
<b>1493</b>	<b>lactic acid</b> 2-hydroxypropionic acid  CH3CH(OH)CO2H C3H6O3	wä 10%	20	+	+	+	+	+	+		+	+	+	+	-	+	+	0	+	+	+	+	+	
		wä 10%	40	+	+	+	+	+	+		+	+	+	+	+	+	+	+	0	+	+	+	+	+
		wä 10%	60		+	+	+	0	+	+			+	+	+		0	0	0	+	+			+
		wä 10%	80			+	+	0	+	+							-	0		+	+			
		wä 10%	100					-	+	+										+	+			
		wä 25%	20	+	+	+	+	+	+	+					+	-	+	+		+	+	+	+	+
		wä 25%	40	+	+	+	+	+	+	+					+		+	+		+	+	+	+	+
		wä 25%	60		+	+	+			+	+					+				+	+			+
		wä 25%	80						+	+										+	+			
		wä 25%	100						+	+										+	+			
		wä 50%	20	+	+	+	+	+	+	+					+	-	+	+		+	+	+	+	+
		wä 50%	40	+	+	+	+	+	+	+					+		+	+		+	+	+	+	+
		wä 50%	60		+	+	+			+	+					+				+	+			+
		wä 50%	80						+	+										+	+			
		wä 50%	100						+	+										+	+			
		wä 90%	20	+	+	+	+	+	+	+			-	+	+	-	+	+	-	+	+			+
		wä 90%	40	0	+	+	+	+	+	+				+	+		+	+		+	+			+
		wä 90%	60		+	+	+			+	+			+	+					+	+			+
		wä 90%	80						+	+										+	+			
		wä 90%	100					+	+	+				+	+	+				+	+			+
<b>1494</b>	<b>mineral oils</b>		20	+	+	+	+	+	+	+		+	+	+	+	-	+	0	+	+	+	+	+	
			40	+	+	+	+	+	+	+	+		+	+	+	+	+	-	+	+	+	+	+	
			60	+	0	0	0	+	+	+			+	+	+	+		+		+	+	+	+	+
			80					+	+	+			+	+	+					+	+			+
			100			-	-	+	+	+			+	+	+						+	+		+
			120					+	+	+			+	+	+						+	+		+

**Abbreviations:** fe = humid; fl = liquid; gf = gaseous; tr = dry; wä = aqueous solution

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## Chemical Resistance

Release Date: 2017-03-22

		Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor		
<b>1495</b>	<b>mixed acid: HNO3 20%, H2SO4 10%</b>	wä		20	+	0	-	-	+	+	+	-		+	+		-	+	+	+	+	+	+	+	+		
		wä		40	+				+	+	+			+	+			-	+	+	0	+	+	+	+	+	
		wä		60						+	+	+								+		+	+	+	+	+	
		wä		80						+	+	+															
		wä		100							+	+															
HNO3 20%, H2SO4 10%, H2O 70%																											
<b>1496</b>	<b>mixed acid: HNO3 87%, H2SO4 10%</b>	wä		20	-	-	-	-	0	+	+	-	-				-	-	-	-			-				
		wä		40						+	+																
		wä		60						+	+																
		wä		80						+	+																
		wä		100						+	+																
HNO3 87%, H2SO4 10%, H2O 3%																											
<b>1497</b>	<b>mixed acid: H2SO4 50%, HNO3 33%</b>	wä		20	+	-	-	-	+	+	+	-	-				-			0	+	+	-	+			
		wä		40	0					+	+												+	+	+		
		wä		60						+	+												+	+	+		
		wä		80						+	+																
		wä		100						+	+																
H2SO4 50%, HNO3 33%, H2O 17%																											
<b>1498</b>	<b>mixed acid: H2SO4 50%, HNO3 50%</b>			20	-	-	-	-	+	+	+	-	-				-	-	-	-			-				
				40						+	+																
				60						+	+																
				80						+	+																
				100						+	+																
H2SO4 50%, HNO3 50%, H2O 0%																											

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## Chemical Resistance

Release Date: 2017-03-22

	Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor
<b>1499</b> mixed acid: H2SO4 18%, HNO3 15%, HF 5%	wä		20	+	0	-	-	+	+	+	-	-	-	-	-	-	-	+	-	+	+	-	-	-
	wä		40					+	+	+								+		+	+			
	wä		60					+	+	+										+	+			
	wä		80						+	+												+		
	wä		100						+	+												+		
H2SO4 18%, HNO3 15%, HF 5%, H2O 62%																								
<b>1500</b> mixed acid: HNO3 50%, HF 10%	wä		20		-	-	-	+	+	+	-	-	-	-	-	-	-			+	+	-	-	-
	wä		40					+	+	+										+	+			
HNO3 50%, HF 10%, H2O 40%																								
<b>1501</b> monochloroacetic acid ethyl ester		TR	20	-	+	+	+		+	+	-	-	+	+	+	-	0	0	-	+			+	+
		TR	40		+	+	+		+	+			+	+	+					+			+	+
		TR	60		+	+	+		+	+			+	+	+					+			+	+
		TR	80						+	+			+	+	+								+	+
		TR	100						+	+			+	+	+								+	+
chloroacetic acid ethyl ester ethyl chloroacetate ClCH2CO2C2H5 C4H7ClO2																								
<b>1502</b> monochloroacetic acid methyl ester		TR	20	-	+	+	+		+	+	-	-	+	+	+	-	+	0	-	+	+		+	+
		TR	40		+	+	+		+	+			+	+	+					+	+		+	+
		TR	60		+	+	+		+	+			+	+	+					+	+		+	+
		TR	80						+	+			+	+	+							+	+	+
		TR	100						+	+			+	+	+							+	+	+
chloroacetic acid methyl ester methyl chloroacetate ClCH2CO2CH3 C3H5ClO2																								

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## Chemical Resistance

Release Date: 2017-03-22

	Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor		
1503	wä	mixed acid: HNO3 59%, HF 4,5%	20		-	-	-	+	+	+	-	-	-	-	-	-	-	-	-	+	+	-	-	-		
			40					+	+	+											+	+				
HNO3 59%, HF 4,5%, H2O 36,5%																										
1505	TR	morpholine	20	-	+	+	+	+	+	+	-	-	+	+	+	-	0	0	+	+	+	+	+	+		
			40		+	+	+	0	+	+	-	+	+	+	+	+					+	+			+	
			60		+	+	+		+	+	-	+	+	+	+	+					+	+			+	
			80						+	+				+	+	+							+			
			100						+	+				+	+	+							+			
tetrahydro-1,4-oxazine C4H9NO																										
1506	wä	mixed acid: H2SO4 25%, HNO3 25%, HF 10%	20	+	-	-	-	+	+	+	-	-	-	-	-	-	-	+		+	+			-		
			40					+	+	+									+		+	+				
			60					+	+	+											+	+				
			80						+	+													+			
			100						+	+													+			
H2SO4 25%, HNO3 25%, HF 10%, H2O 40%																										
1507	TR	naphthalene	20	-	+	+	+	+	+	+		-	+	+		+	-	+	0							
			40		0	0	0	+	+	+				+	+		+	+	-							
			60		0	-	-	0	+	+				+	+		+	+								
			80						+	+				+	+											
			100						+	+				+	+											
C10H8																										

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## Chemical Resistance

Release Date: 2017-03-22

Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor	
1508	naphthalene sulfonic acid (mixture of isomers)	TR	20	+	+				+	+					0	+								
		TR	40						+	+						0	+							
		TR	60						+	+						-								
		TR	80						+	+														
		TR	100						+	+														
1509	sodium acetate acetic acid sodium salt	wä	GL	20	+	+	+	+	+	+	+			+	+	+	+	0	+	+	+	+	+	
		wä	GL	40	+	+	+	+	+	+	+	+			+	+	+	+		+	+	+	+	
		wä	GL	60		+	+	+	+	+	+	+			+		+	+		+	+	+	+	
		wä	GL	80			+	+	+	+	+				+	0	0			+	+		+	
		wä	GL	100					0	+	+				+					+	+			
1510	sodium aluminate	wä	VL	20	+	+	+	+	+	+						+			+	+		+		
		wä	VL	40	+	+	+	+	+	+						+			+	+		+		
		wä	VL	60	0	+	+		+	+						+			+	+		+		
		wä	VL	80			+		+	+									+	+		+		
		wä	VL	100					+	+									+	+				
1511	sodium arsenate	wä	GL	20					+	+												+		
		wä	GL	40					+	+												+		
		wä	GL	60					+	+												+		
		wä	GL	80					+	+														
		wä	GL	100					+	+														

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## Chemical Resistance

Release Date: 2017-03-22

	Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor	
1512 sodium arsenite  NaH <sub>2</sub> AsO <sub>3</sub> H <sub>2</sub> AsNaO <sub>3</sub>	wä	GL	20	+	+	+	+		+	+															
	wä	GL	40						+	+															
	wä	GL	60						+	+															
	wä	GL	80						+	+															
	wä	GL	100						+	+															
1513 sodium hydrogencarbonate  sodium bicarbonate  NaHCO <sub>3</sub> CHNaO <sub>3</sub>	wä	GL	20	+	+	+	+	+	+	+		+	+	+	+	+	+	+	+	+	+	+	+	+	+
	wä	GL	40	+	+	+	+	+	+	+		+	+	+	+	+	+	+	+	+	+	+	+	+	+
	wä	GL	60	+	+	+	+	+	+	+		+	+	+	+	+	+	+	+	+	+	+	+	+	+
	wä	GL	80			+	+	0	+	+		+				+		+			+	+	+	+	+
	wä	GL	100						+	+						+					+	+			
1514 sodium dichromate  Na <sub>2</sub> Cr <sub>2</sub> O <sub>7</sub> Cr <sub>2</sub> Na <sub>2</sub> O <sub>7</sub>	wä	GL	20	+	+	+	+	+	+	+		+			+	+	+	+	+	+	+	+	+	+	+
	wä	GL	40	+	+	+	+	+	+	+		+			+		+	+			+	+	+	+	+
	wä	GL	60	0	+	+	+	+	+	+		+			+		+	+			+	+	+	+	+
	wä	GL	80					+	+	+						+					+	+	+	+	+
	wä	GL	100					+	+	+						+					+	+			
1515 sodium hydrogensulfate  sodium bisulfate  NaHSO <sub>4</sub> HNaO <sub>4</sub> S	wä	10%	20	+	+	+	+	+	+	+					+	+	+	+	+	+	+	+	+	+	+
	wä	10%	40	+	+	+	+	+	+	+					+	0	+	+	+	+	+	+	+	+	+
	wä	10%	60	0	+	+	+	+	+	+					+	-	+	+			+	+	+	+	+
	wä	10%	80					+	+	+					+		0	+			+	+	+	+	+
	wä	10%	100					+	+	+					+			+			+	+			
	wä	50%	20	+	+	+	+	+	+	+					+	+	+	+	+	+	+	+	+	+	+
	wä	50%	40	0	+	+	+	+	+	+					+	0	+	+	+	+	+	+	+	+	+
	wä	50%	60		+	+	+	+	+	+					+	-	+	+			+	+	+	+	+
	wä	50%	80					+	+	+					+		0	+			+	+	+	+	+
	wä	50%	100					+	+	+					+			+			+	+			

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## Chemical Resistance

Release Date: 2017-03-22

Condition	Concentration	Temperature [°C]	Material																					
			PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor	
<b>1517</b> sodium bisulfide NaSH HNaS	sodium hydrogensulfide	20	+	+	+	+	+	+	+	+	+	+	+	+	+	0	+	+	+	+	+	+	+	+
		40	0	+	+	+	+	+	+	+	+	+	+	+	+	+	-	+	+	+	+	+	+	+
		60		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
		80					+	+	+	+	+	+	+	+	+	+	+	+	0	+	+	+	+	+
		100					+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
<b>1518</b> sodium bisulfite NaHSO3 HNaO3S	sodium hydrogensulfite	20	+	+	+	+	+	+	+	+	+	+	+	+	-	+	0	+	+	+	+	+	+	
		40	0	+	+	+	+	+	+	+	+	+	+	+	-	+	-	+	+	+	+	+	+	+
		60	-	+	+	+	+	+	+	+	+	+	+	+	+	+	-	+	+	+	+	+	+	+
		80			+	+	+	+	+	+	+	+	+	+	+	0	0	+	+	+	+	+	+	+
		100					+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
		20	+	+	+	+	+	+	+	+	+	+	+	+	+	-	+	-	+	+	+	+	+	+
		40	0	+	+	+	+	+	+	+	+	+	+	+	+	+	-	0	+	+	+	+	+	+
		60	-	+	+	+	+	+	+	+	+	+	+	+	+	0	+	+	+	+	+	+	+	+
		80			+	+	+	+	+	+	+	+	+	+	+	0	0	+	+	+	+	+	+	+
100			+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		
<b>1519</b> sodium perborate NaBO3 BNaO3	sodium perborate	20	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
		40	+	+	+	+	+	+	+	+	+	+	+	+	0	+	0	+	+	+	+	+	+	
		60	0	+	+	+	+	+	+	+	+	+	+	+	+	+	-	+	+	+	+	+	+	
		80			+	+	+	+	+	+	+	+	+	+	+	0	0	+	+	+	+	+	+	+
		100					+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
<b>1520</b> sodium bromate NaBrO3 BrNaO3	sodium bromate	20	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
		40	0	0	0	0	+	+	+	+	+	+	+	+	0	+	+	+	+	+	+	+	+	
		60					+	+	+	+	+	+	+	+	-	+	+	+	+	+	+	+	+	
		80					+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
		100					+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+

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# Chemical Resistance

Release Date: 2017-03-22

Condition	Concentration	Temperature [°C]	Material																							
			PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSIC	Carbon	Al2O3	Al2O3 Sensor			
1521 NaBr BrNa	sodium bromide	wä 10%	20	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		
		wä 10%	40	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
		wä 10%	60	0	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
		wä 10%	80					+	+	+				+			+		+	+	+	+	+	+	+	
		wä 10%	100					+	+	+				+			+		+	+	+	+	+	+	+	
		wä 50%	20	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
		wä 50%	40	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
		wä 50%	60	0	+	+	+	+	+	+	+	+	+	+	+	+	+	+	-	+	+	+	+	+	+	+
		wä 50%	80					+	+	+				+			+		+	+	+	+	+	+	+	
		wä 50%	100					+	+	+				+			+		+	+	+	+	+	+	+	
1522 soda Na2CO3 CNa2O3	sodium carbonate	wä 10%	20	+	+	+	+	0	+	+		+			+	+	+	+	+	+	+	+	+	+		
		wä 10%	40	+	+	+	+	-	+	+		+			+	+	0	+	+	+	+	+	+	+		
		wä 10%	60	0	+	+			+	+		+			+	+		-	+	+	+	+	+	+	+	
		wä 10%	80			+			+	+				+	+				+	+	+	+	+	+	+	
		wä 10%	100						+	+				+						+	+	+	+	+	+	
		wä GL	20	+	+	+	+	0	+	+		+			+	+	+	+	+	+	+	+	+	+	+	
		wä GL	40	+	+	+	+	-	+	+		+			+	+	0	+	+	+	+	+	+	+	+	
		wä GL	60	0	+	+			+	+				+	+			-	+	+	+	+	+	+	+	
		wä GL	80			+			+	+				+	+				+	+	+	+	+	+	+	
		wä GL	100						+	+				+						+	+	+	+	+	+	
1524 NaClO3 ClNaO3	sodium chlorate	wä GL	20	+	+	+	+	+	+	+			+	+	+	+	+	+	+	+	+	+	+	+		
		wä GL	40	+	+	+	+	+	+	+			+	+	+	0	+	+	+	+	+	+	+	+	+	
		wä GL	60	0	+	+	+	+	+	+			+	+	+	-	+	+	+	+	+	+	+	+	+	
		wä GL	80					0	+	+			+	+	+	0	+	0	+	+	+	+	+	+	+	
		wä GL	100						+	+						-			+	+	+	+	+	+	+	

**Abbreviations:** fe = humid; fl = liquid; gf = gaseous; tr = dry; wä = aqueous solution

GK = low concentration; GL = cold saturated solution; H = usual in trade; HK = high concentration; TR = technically pure; VL = diluted solution

+ = resistant; 0 = conditionally resistant; - = non-resistant

# Chemical Resistance

Release Date: 2017-03-22

Condition	Concentration	Temperature [°C]	Material																					
			PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor	
<b>1525</b> sodium chloride table salt brine NaCl ClNa	wä	10%	20	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
	wä	10%	40	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
	wä	10%	60	+	+	+	+	+	+	+	-	-	+	+	+	+	+	+	+	+	+	+	+	+
	wä	10%	80			+	+	+	+				+		+	+		+	+	+	+	+	+	+
	wä	10%	100					+	+	+			+					+	+	+	+	+	+	+
	wä	GL	20	+	+	+	+	+	+	+	+	0	0	+	+	+	+	+	+	+	+	+	+	+
	wä	GL	40	+	+	+	+	+	+	+	+	0	0	+	+	+	+	+	+	+	+	+	+	+
	wä	GL	60	+	+	+	+	+	+	+	+	-	-	+	+	+	+	+	+	+	+	+	+	+
	wä	GL	80			+	+	+	+	+				+		+	+		+	+	+	+	+	+
	wä	GL	100					+	+	+				+					+	+	+	+	+	+
<b>1526</b> sodium chlorite NaClO2 ClNaO2	wä	10%	20	0	+	+	+	+	+	+				+	-	+	+	+	+	+	+	+	+	
	wä	10%	40			+	+	+	+	+				+		+	+	+	+	+	+	+	+	
	wä	10%	60			0	0	+	+	+				+		+	+	+	+	+	+	+	+	
	wä	10%	80					+	+	+														
	wä	10%	100					0	+	+														
	wä	50%	20	0	+	+	+	+	+	+				+	-	+	+	+	+	+	+	+	+	
	wä	50%	40						+	+				+					+	+		+	+	
	wä	50%	60						+	+				+					+	+		+	+	
	wä	50%	100						+	+														
<b>1527</b> sodium chromate Na2CrO4 CrNa2O4	wä	VL	20	+	+	+	+	+	+	+				+	+	+	+	+	+	+	+	+	+	
	wä	VL	40	+	+	+	+	+	+	+				+	0	+	+	+	+	+	+	+	+	
	wä	VL	60	0	+	+	+	+	+	+				+	-	+	+	0	+	+	+	+	+	
	wä	VL	80					+	+	+				+					+	+		+	+	
	wä	VL	100					+	+	+				+					+	+				

**Abbreviations:** fe = humid; fl = liquid; gf = gaseous; tr = dry; wä = aqueous solution  
 GK = low concentration; GL = cold saturated solution; H = usual in trade; HK = high concentration; TR = technically pure; VL = diluted solution  
 + = resistant; 0 = conditionally resistant; - = non-resistant



## Chemical Resistance

Release Date: 2017-03-22

Condition	Concentration	Temperature [°C]	Material																					
			PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor	
<b>1528</b> sodium citrate trisodium citrate citric acid trisodium salt HOC(CO <sub>2</sub> Na)(CH <sub>2</sub> CO <sub>2</sub> Na) <sub>2</sub> C <sub>6</sub> H <sub>5</sub> Na <sub>3</sub> O <sub>7</sub>	wä	VL	20	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
	wä	VL	40	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
	wä	VL	60		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
	wä	VL	80						+	+										+	+			
	wä	VL	100						+	+											+			
<b>1529</b> sodium cyanide NaCN CNNa	wä	GL	20	+	+	+	+	-	+	+		+		+	+	+	+	+	+	+	+	+	+	+
	wä	GL	40	+	+	+	+	-	+	+		+		+	+	0	+	+	+	+	+	+	+	+
	wä	GL	60	+	+	+		-	+	+		+		+	+	-	+	+	+	+	+	+	+	+
	wä	GL	80			+			+	+				+	+				+	+				
	wä	GL	100						+	+				+						+				
<b>1530</b> sodium fluoride NaF FNa	wä	GL	20	+	+	+	+	+	+	+		+		+	+	+	+	+	+	+	+	+	+	+
	wä	GL	40	+	+	+	+	+	+	+		+		+	+	+	+	+	+	+	+	+	+	+
	wä	GL	60		+	+		+	+	+				+	0	+	+	+	+	+	+	+	+	+
	wä	GL	80					+	+	+				+					+	+				
	wä	GL	100					0	+	+				+					+	+				
<b>1531</b> sodium formate formic acid sodium salt HCO <sub>2</sub> Na CHNaO <sub>2</sub>	wä	GL	20		+	+	+		+	+		+		+	+				+	+			+	+
	wä	GL	40		+	+	+		+	+		+		+	+				+	+			+	+
	wä	GL	60		+	+	+		+	+				+					+	+			+	+
	wä	GL	80						+	+				+					+	+			+	+
	wä	GL	100						+	+				+					+	+				
<b>1533</b> sodium hypophosphite sodium phosphinate NaH <sub>2</sub> PO <sub>2</sub> H <sub>2</sub> NaPO <sub>2</sub>	wä	GL	20	+	+	+	+		+	+				+	+				+	+			+	+
	wä	GL	40	+	+	+	+		+	+				+	+				+	+			+	+
	wä	GL	60	0	+	+	+		+	+				+					+	+			+	+
	wä	GL	80						+	+				+					+	+			+	+
	wä	GL	100						+	+				+					+	+				

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GK = low concentration; GL = cold saturated solution; H = usual in trade; HK = high concentration; TR = technically pure; VL = diluted solution

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## Chemical Resistance

Release Date: 2017-03-22

Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor	
1534	sodium iodide	wä	GL	20	+	+	+	+	+	+	+			+	+	+	+	+	+	+	+	+	+	
		wä	GL	40	+	+	+	+	+	+	+	+			+	+	+	+	+	+	+	+	+	+
		wä	GL	60	0	+	+	+	+	+	+	+			+	0	+	+	0	+	+	+	+	+
		wä	GL	80					+	+	+				+					+	+	+	+	+
		wä	GL	100					+	+	+				+					+	+	+	+	+
1535	sodium lactate lactic acid sodium salt	wä	GL	20	+	+	+	+	+	+				+		+			+	+	+	+	+	
		wä	GL	40		+	+	+		+	+				+		+			+	+	+	+	+
		wä	GL	60						+	+				+					+	+	+	+	+
		wä	GL	80						+	+				+					+	+			
		wä	GL	100						+	+				+					+	+			
1536	sodium nitrate NaNO3 NNO3	wä	GL	20	+	+	+	+	+	+	+			+	+	+	+	+	+	+	+	+	+	
		wä	GL	40	+	+	+	+	+	+	+	+			+	+	+	+	+	+	+	+	+	+
		wä	GL	60	0	+	+	+	+	+	+	+			+	+	+	+	+	+	+	+	+	+
		wä	GL	80					+	+	+	+			+					+	+			+
		wä	GL	100					+	+	+	+			+					+	+			
1537	sodium nitrite NaNO2 NNO2	wä	GL	20	+	+	+	+	+	+	+			+	+	+	+	+	+	+	+	+	+	
		wä	GL	40	+	+	+	+	+	+	+	+			+	0	+	+	+	+	+	+	+	+
		wä	GL	60		+	+	+	+	+	+	+			+	-	+	+	+	+	+	+	+	+
		wä	GL	80					+	+	+	0			+			+	0	+	+	+	+	+
		wä	GL	100					+	+	+				+					+	+			
1538	sodium perchlorate NaClO4 ClNaO4	wä	GL	20	+	+	+	+	+	+	+			+	0	+	+	+	+	+	+	+	+	
		wä	GL	40	+	+	+	+	+	+	+			+	0	+	+	+	+	+	+	+	+	+
		wä	GL	60		+	+	+	+	+	+			+	0	+	+	+	+	+	+	+	+	+
		wä	GL	80					+	+				+		+	+			+	+			
		wä	GL	100					+	+				+						+	+			

**Abbreviations:** fe = humid; fl = liquid; gf = gaseous; tr = dry; wä = aqueous solution

GK = low concentration; GL = cold saturated solution; H = usual in trade; HK = high concentration; TR = technically pure; VL = diluted solution

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## Chemical Resistance

Release Date: 2017-03-22

Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor	
																							+	
1539	sodium peroxide	wä	GL	20	+	0	0	+	+	+									+	+		+		
		wä	GL	40	+	-	-	+	+	+										+	+			
		wä	GL	60				+	+	+														
		wä	GL	80				+	+	+														
		wä	GL	100					+	+														
Na2O2																								
Na2O2																								
1540	sodium persulfate	wä	GL	20	+	+	+	+	+	+				+	-	+	+	+	+	+	+	+		
		wä	GL	40	+	+	+	+	+	+				+		+	+	+	+	+	+	+	+	
		wä	GL	60	0	+	+	+	+	+				+		+	+	+	+	+	+	+	+	
		wä	GL	80				+	+	+				+		+	+	0	+	+	+	+	+	
		wä	GL	100					+	+							+		+	+	+	+	+	
sodium peroxodisulfate																								
Na2S2O8																								
Na2O8S2																								
1541	sodium phosphate	wä	GL	20	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		
		wä	GL	40	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
		wä	GL	60	0	+	+		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
		wä	GL	80			+	0	+	+	+	+	+	+	+					+	+	+	+	
		wä	GL	100					+	+	0				+					+	+	+	+	
trisodium phosphate																								
Na3PO4																								
Na3O4P																								
1542	sodium silicate	wä	GL	20	+	+	+	+	+	+		+	+	+	+	+	+	+	+	+	+	+		
		wä	GL	40	+	+	+	+	+	+			+	+	+	+	+	+	+	+	+	+	+	
		wä	GL	60	0	+	+	0	+	+			+	+	+	+	0	+	+	+	+	+	+	
		wä	GL	80				-	+	+					+						+	+	+	
		wä	GL	100					+	+					+						+	+	+	
sodium metasilicate																								
soda water glass																								
Na2SiO3																								
Na2O3Si																								

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## Chemical Resistance

Release Date: 2017-03-22

	Condition	Concentration	Temperature [°C]	Material																							
				PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor			
1543 Na2SO4 Na2O4S	wä	10%	20	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		
			40	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
			60	0	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
			80			+	+	+	+	+	+			+	+	+		+			+	+	+	+	+	+	+
			100							+	+	+			+	+	+				+	+	+	+	+	+	+
			20	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
			40	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
			60	0	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
			80			+	+	+	+	+	+			+	+	+		+			+	+	+	+	+	+	+
100								+	+	+			+	+				+	+	+	+	+	+	+			
1544 Na2S	wä	GL	20	+	+	+	+	0	+	+				+	+	+	+		+		+	+	+	+	+		
			40	+	+	+	+	0	+	+				+	+	+	+		+		+	+	+	+	+		
			60	0	+	+	+	0	+	+				+	+	+	+		+		+		+	+	+	+	
			80						+	+				+	+	0	+			+		+					
			100						+	+				+	0					+		+					
1545 Na2SO3 Na2O3S	wä	GL	20	+	+	+	+	+	+	+				+	+	+	+	+	+	+	+	+	+	+	+		
			40	+	+	+	+	+	+	+				+	0	+	+	+	+	+	+	+	+	+	+		
			60	0	+	+	+	+	+	+				+	-	+	+	+	+	+	+	+	+	+	+	+	
			80			+	+	+	+	+				+						+		+	+	+	+	+	
			100						+	+	+			+						+		+					
1546 disodium tetraborate borax Na2B4O7 B4Na2O7	wä	GL	20	+	+	+	+	+	+	+	+			+	+	+	+	+	+	+	+	+	+	+	+		
			40	+	+	+	+	+	+	+	+			+	+	+	+	+	+	+	+	+	+	+	+		
			60	0	+	+	+	+	+	+				+	+	+	+	+	0	+	+	+	+	+	+	+	
			80			+	+	+	+	+				+	+	+	+				+	+	+	+	+	+	
			100						+	+	+			+	+	+				+	+	+					

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## Chemical Resistance

Release Date: 2017-03-22

**1547**      **soda lye**

sodium hydroxide  
caustic soda  
NaOH  
HNaO

Condition	Concentration	Temperature [°C]	Material																				
			PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor
wä	5%	20	+	+	+	+	-	+	+	+	0	0	+	+	+	+	+	+	+	+	+	+	+
wä	5%	40	+	+	+	+	-	+	+	+	+	+	+	+	+	-	+	+	+	+	+	+	+
wä	5%	60	+	+	+	+	-	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
wä	5%	80			+	-	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
wä	5%	100						+	+														
wä	10%	20	+	+	+	+	-	+	+	+	0	0	+	+	+	+	+	+	+	+	+	+	+
wä	10%	40	+	+	+	+	-	+	+	+	+	+	+	+	+	-	+	+	+	+	+	+	+
wä	10%	60	+	+	+	+	-	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
wä	10%	80			+	-	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
wä	10%	100						+	+														
wä	15%	20	+	+	+	+	-	+	+	+	0	0	+	+	+	0	+	+	+	+	+	+	+
wä	15%	40	+	+	+	+	-	+	+	+	+	+	+	+	+	-	+	+	+	+	+	+	+
wä	15%	60	0	+	+	+	-	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
wä	15%	80			+	-	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
wä	15%	100						+	+														
wä	25%	20	+	+	+	+	-	+	+	+	0	0	+	+	+	0	+	+	+	+	+	+	+
wä	25%	40	+	+	+	+	-	+	+	+	+	+	+	+	+	-	+	+	+	+	+	+	+
wä	25%	60	0	+	+	+	-	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
wä	25%	80			+	-	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
wä	25%	100						+	+														
wä	30%	20	+	+	+	+	-	+	+	+	0	0	+	+	+	0	+	+	+	+	+	+	+
wä	30%	40	+	+	+	+	-	+	+	+	+	+	+	+	+	-	0	+	+	+	+	+	+
wä	30%	60	0	+	+	+	-	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
wä	30%	80			+	-	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
wä	30%	100						+	+														
wä	40%	20	+	+	+	+	-	+	+	+	0	0	+	+	+	0	+	+	+	+	+	+	+
wä	40%	40	+	+	+	+	-	+	+	+	+	+	+	+	+	-	0	+	+	+	+	+	+
wä	40%	60	0	+	+	+	-	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+

**Abbreviations:** fe = humid; fl = liquid; gf = gaseous; tr = dry; wä = aqueous solution

GK = low concentration; GL = cold saturated solution; H = usual in trade; HK = high concentration; TR = technically pure; VL = diluted solution

+ = resistant; 0 = conditionally resistant; - = non-resistant



## Chemical Resistance

Release Date: 2017-03-22

Condition	Concentration	Temperature [°C]	Material																					
			PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor	
wä	40%	80						+	+				+										-	-
wä	40%	100						+	+															
wä	50%	20	+	+	+	+	-	+	+			0	0	+		+	-	+	+	+	+	+	+	+
wä	50%	40	+	+	+	+		+	+			+		+		+	-	0	+	+	+	+	+	+
wä	50%	60	0	+	+				+	+						+			+	+	+	+		
wä	50%	80					-		+	+						+							-	-
wä	50%	100							+	+														

1548	nickel(II) chloride	Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor	
NiCl2 Cl2Ni		wä	GL	20	+	+	+	+	+	+	+		+			+	+	+	+	+	+	+	+	+	+	
		wä	GL	40	+	+	+	+	+	+	+			+			+	+	+	+	+	+	+	+	+	+
		wä	GL	60	+	+	+	+	+	+	+			+			+	+	+	+	+	+	+	+	+	+
		wä	GL	80						+	+	+						+		+			+	+	+	+
		wä	GL	100						+	+	+						+					+	+	+	

1549	nickel(II) nitrate	Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor	
Ni(NO3)2 N2NiO6		wä	GL	20	+	+	+	+	+	+	+		+			+	+	+	+	+	+	+	+	+	+	
		wä	GL	40	+	+	+	+	+	+	+			+			+		+	+	+	+	+	+	+	+
		wä	GL	60	0	+	+	+	+	+	+						+			+			+	+	+	+
		wä	GL	80						+	+	+						+					+	+	+	+
		wä	GL	100						+	+	+						+					+	+	+	

1550	nickel(II) sulfate	Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor	
NiSO4 NiO4S		wä	GL	20	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
		wä	GL	40	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
		wä	GL	60	0	+	+	+	+	+	+			+	+	+	+	+	+	+	+	+	+	+	+	+
		wä	GL	80			+	+	+	+	+				+	+	+			+	+	+	+	+	+	+
		wä	GL	100						+	+	+				+	+	+					+	+	+	+

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GK = low concentration; GL = cold saturated solution; H = usual in trade; HK = high concentration; TR = technically pure; VL = diluted solution

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## Chemical Resistance

Release Date: 2017-03-22

Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1.4301	V4A 1.4571	Hast-C 2.4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor	
1551	nickel(II) sulfide	wä	GL	20	+	+	+	+	+	+	+			+	+	+	+	+	+	+	+	+	+	
		wä	GL	40	+	+	+	+	+	+	+	+			+	+	+	+	+	+	+	+	+	+
		wä	GL	60	+	+	+	+	+	+	+	+			+	+	+	+	+	+	+	+	+	+
		wä	GL	80			+	+	+	+	+					+	+	+		+	+	+	+	+
		wä	GL	100				+	+	+	+					+				+	+	+	+	+
NiS																								
1552	nickel(II) sulfite	wä	GL	20		+	+	+	+	+				+	+	+	+	+	+	+	+	+	+	
		wä	GL	40		+	+	+	+	+					+	+	+	+	+	+	+	+	+	+
		wä	GL	60		+	+	+	+	+					+	+	+	+	+	+	+	+	+	+
		wä	GL	80					+	+						+	+	+		+	+	+	+	+
		wä	GL	100					+	+							+	+	+	+	+	+	+	+
NiSO3 NiO3S																								
1553	nickel(II) tartrate	wä	GL	20		+	+	+	+	+				+	+	+	+	+	+	+	+	+	+	
		wä	GL	40		+	+	+	+	+					+	+	+	+	+	+	+	+	+	+
		wä	GL	60		+	+	+	+	+					+	+	+	+	+	+	+	+	+	+
		wä	GL	80					+	+						+	+	+		+	+	+	+	+
		wä	GL	100					+	+							+	+	+	+	+	+	+	+
L(+)-tartaric acid nickel salt Ni[CO2CH(OH)CH(OH)CO2] C4H4NiO6																								
1554	(S)-(-)-nicotine	wä	VL	20		+	+	+	+	+	+		+		+	+	+	+						
		wä	VL	40					+	+	+													
		wä	VL	60					+	+	+													
		wä	VL	80					+	+	+													
		wä	VL	100					+	+	+													
C10H14N2 (S)-(-)-1-methyl-2-(3-pyridyl)pyrrolidine																								
1555	nicotinic acid	wä	VL	20	+	+		+	+	+														
		wä	VL	40	+	+		+	+	+														
		wä	VL	60	+			+	+	+														
		wä	VL	80				+	+	+														
		wä	VL	100				+	+	+														
C6H5NO2 pyridine-3-carboxylic acid niacin																								

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## Chemical Resistance

Release Date: 2017-03-22

Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor	
																							+	
1556	nitrobenzene	TR	20	-	+	+	+	+	+	+	-	+	+	+	0	-	0	-	+	+	+	+	+	
		TR	40		0	0	0	0	+	+			+	+	+	-	-	-	-	+	+	+	+	+
		TR	60		0	0	0	-	+	+			+	+	+	-	-	-	-	+	+	+	+	+
		TR	80						+	+			+	+	+						+	+	+	+
		TR	100						+	+			+	+	+						+	+	+	+
		TR	120						+	+			+	+	+						+	+	+	+
1557	nitrobenzoic acid (o-, m- a. p-)	wä	VL	20	+	+	+	+	+													+	+	
		wä	VL	40					+	+													+	+
		wä	VL	60					+	+													+	+
		wä	VL	80					+	+													+	+
		wä	VL	100					+	+													+	+
1559	nitroglycol	wä	VL	20	-	-	-	-	+	+			+		-	+	+	+						
		wä	VL	40					+	+														
		wä	VL	60					+	+														
		wä	VL	80					+	+														
		wä	VL	100					+	+														
1560	nitrophenol (o-, m- a. p-)	wä	GL	20	-				+	+	+													
		wä	GL	40					+	+	+													
		wä	GL	60					+	+														
		wä	GL	80					+	+														
		wä	GL	100					+	+														

**Abbreviations:** fe = humid; fl = liquid; gf = gaseous; tr = dry; wä = aqueous solution

GK = low concentration; GL = cold saturated solution; H = usual in trade; HK = high concentration; TR = technically pure; VL = diluted solution

+ = resistant; 0 = conditionally resistant; - = non-resistant



## Chemical Resistance

Release Date: 2017-03-22

Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSIC	Carbon	Al2O3	Al2O3 Sensor		
1562	nitrotoluene (o-, m- a. p-)	TR	20	-	+	+	+	+	+	+	+				0	.	0	.				+	+		
		TR	40		+	+	+	+	+	+	+					.	.						+	+	
		TR	60		0	0	0	+	+	+													+	+	
		TR	80					+	+	+													+	+	
		TR	100				0	+	+	+													+	+	
		TR	120					+	+	+													+	+	
1563	fruit pulp		20	+	+	+	+	+	+			+	+	+	+	+	+	+							
			40		+	+	+	+	+	+															
			60		+	+	+	+	+	+															
			80					+	+	+															
			100						+	+															
1564	fruit juice, not fermented		20	+	+	+	+	+	+						+	+	+	+							
			40		+	+	+	+	+	+															
			60		+	+	+	+	+	+															
			80						+	+															
			100						+	+															
1565	fruit juice, fermented		20	+	+	+	+	+	+						+	+	+	+							
			40		+	+	+	+	+	+															
			60		+	+	+	+	+	+															
			80						+	+															
			100						+	+															

**Abbreviations:** fe = humid; fl = liquid; gf = gaseous; tr = dry; wä = aqueous solution

GK = low concentration; GL = cold saturated solution; H = usual in trade; HK = high concentration; TR = technically pure; VL = diluted solution

+ = resistant; 0 = conditionally resistant; - = non-resistant



## Chemical Resistance

Release Date: 2017-03-22

Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor	
1566	n-octane	TR	20				+	+	+			+	+	+	+	-	+		+	+		+	+	
		TR	40				+	+	+			+	+	+	+		+		+	+		+	+	
		TR	60				+	+	+			+	+	+	+					+	+		+	+
		TR	80				+	+	+			+	+	+	+					+	+		+	+
		TR	100				+	+	+			+	+	+	+					+	+		+	+
		TR	120				+	+	+			+	+	+	+					+	+		+	+
CH3(CH2)6CH3 C8H18		TR	20				+	+	+			+	+	+					+	+		+	+	
		TR	40				+	+	+			+	+	+					+	+		+	+	
		TR	60				+	+	+			+	+	+					+	+		+	+	
		TR	80				+	+	+			+	+	+					+	+		+	+	
		TR	100				+	+	+			+	+	+					+	+		+	+	
		TR	120				+	+	+			+	+	+					+	+		+	+	
1567	octyl tolyl ether (o-, m-, a. p-) octyloxytoluene (o-, m-, a. p-)	TR	20	-	0	0	0		+	+							-	0	-					
		TR	40	-	-	-	-		+	+								-	-					
		TR	60	-	-	-	-		+	+								-	-					
		TR	80						+	+														
		TR	100						+	+														
		TR	120						+	+														
1569	oil (vegetable + animal)		20	+	+	+	+	+	+							+	-	+	0					
			40	+	+	+	+	+	+							+	-	+	0					
			60	+	0	0	0	+	+	+						+	-	+	-					
			80					+	+	+														
			100					+	+	+														
1570	oleum	10% SO3	20	-	-	-	-	-	+	+	-	-				-	-	-	-					
		10% SO3	40						+	+														
		10% SO3	60						+	+														
		10% SO3	80						+	+														
		10% SO3	100						+	+														
H2SO4 + SO3 H2O4S + O3S			20																					
			40																					
			60																					
			80																					
			100																					

**Abbreviations:** fe = humid; fl = liquid; gf = gaseous; tr = dry; wä = aqueous solution

GK = low concentration; GL = cold saturated solution; H = usual in trade; HK = high concentration; TR = technically pure; VL = diluted solution

+ = resistant; 0 = conditionally resistant; - = non-resistant



## Chemical Resistance

Release Date: 2017-03-22

Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor		
1571	oleum vapours	gf	GK	20	+	-	-	+	+						-	0	+	0							
		gf	GK	40		-	-	+	+							-									
		gf	GK	60		-	-	+	+							-									
		gf	GK	80		-	-	+	+							-									
		gf	GK	100		-	-	+	+							-									
		gf	GK	120		-	-	+	+							-									
		gf	HK	20	-	-	-	+	+	+						-	0	+	0						
		gf	HK	40					+	+															
		gf	HK	60					+	+															
		gf	HK	80					+	+															
		gf	HK	100					+	+															
		gf	HK	120					+	+															
1572	olive oil			20	+	+	+	+	+			+	+		+	-	+	+	+	+		+	+		
				40	+	+	+	+	+				+	+		+	-	+	+	+	+		+	+	
				60	+	0	0	0	+				+	+		+	-	+	0	+	+		+	+	
				80			0	0	+				+	+			-	+	-	+	+		+	+	
				100									+	+			-		-	+	+		+	+	
1573	oleic acid		TR	20	+	+	+	+	+	+	+			+	0	-	+	-		+		+	+		
			TR	40	+	+	+	+	+	+	+	+			+	-	0			+		+	+		
			TR	60	+	0	0	0	+	+	+	+			+			-			+		+	+	
			TR	80		-	-	-	+	+	+					+					+		+	+	
			TR	100					+	+	+					+					+		+	+	
	TR	120					+	+	+					+					+		+	+			

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## Chemical Resistance

Release Date: 2017-03-22

Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor	
1574 orthophosphoric acid  H3PO4 H3O4P	10%	20	+	+	+	+	+	+	+	0	+	+	+	+	0	+	+	+	+	+	+	+	+	
		40	+	+	+	+	+	+	+	-	+	+	+	+	+	+	+	+	+	+	+	+	+	
	60	0	+	+		+	+	+			+	+	+	+		+	+	+	+	+		+	+	
	10%	80			+		+	+	+				+	+	+		+	+		+	+		+	+
		100					+	+	+				+	+	+		+	+		+	+			
	30%	20	+	+	+	+	+	+	+	0	+	+	+	+	+	0	+	+	+	+	+		+	+
		40	+	+	+	+	+	+	+	-	+	0	+	+	+		+	+	+	+	+		+	+
	30%	60	0	+	+		+	+	+			+	-	0	+		+	+	+	+	+		+	+
		80			+		+	+	+								+	+		+	+		+	+
	30%	100					+	+	+								+	+		+	+			
		20	+	+	+	+	+	+	+	-	+	+	+	+	+	-	+	+	+	+	+		+	+
	50%	40	+	+	+	+	+	+	+			+	0	+	+		+	+	+	+	+		+	+
		60	0	+	+		+	+	+				-	0	+		+	+	+	+	+		+	+
	50%	80					+	+	+								0	+		+	+		+	+
		100					+	+	+								0		+	+				
	60%	20	+	+	+	+	+	+	+	-	+	+	+	+	+	-	+	+	+	+	+		+	+
		40	+	+	+	+	+	+	+			+	0	+	+		+	+	+	+	+		+	+
	60%	60	0	+	+		+	+	+				-	0	+		+	+	+	+	+		+	+
		80					+	+	+								0	+		+	+		+	+
	60%	100					+	+	+								0		+	+				
		20	+	+	+	+	+	+	+	-				+	-	0	+	+	+	+	+		+	+
	85%	40	+	+	+		+	+	+						+		0	+	+	+	+		+	+
		60	0	0	0		+	+	+				-	-	+		0	+	+	+	+		+	+
	85%	80					+	+	+								0	+		+	+		+	+
		100					+	+	+								0		+	+				
	85%	120					+	+	+															
		20	+	+	+	+	+	+	+	-					+	-	0	+	+	+	+		+	+
	95%	40	+	+	0		+	+	+						+	0	+	+	+	+			+	+

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## Chemical Resistance

Release Date: 2017-03-22

Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor
wä	95%	60			-	-	+	+	+			-	-	+		0	+	+	+	+		+	
wä	95%	80					+	+	+								+		+	+			
wä	95%	100					+	+	+								0		+	+			
wä	95%	120					+	+	+														

1575	oxalic acid	Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor
		wä	10%	20	+	+	+	+	+	+	+			+	+	+	0	+	+	+	+	+	+	+	+
	ethanedioic acid	wä	10%	40	+	+	+	+	+	+	+			0	+	+	-	+	+	0	+	+	+	+	+
		wä	10%	60	+	+	+	+	0	+	+		0	0	0	-				-	+	+	+		
	HO2CCO2H	wä	10%	80			0	0	-	+	+			-	0							+	+		
	C2H2O4	wä	10%	100						+	+			-								+	+		

1576	ozone	Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor
		gf	2%in Luft	20	+	0	0	0	+	+	+		+		+		-	+	+	+					
	trioxygen	gf	2%in Luft	40	+	-	-	-	+	+	+				+				+	0	0				
		gf	2%in Luft	60					0	+	+				+										
		gf	2%in Luft	80						+	+														
	O3	gf	2%in Luft	100						+	+														
		wä	GL	20	+	0	0	0	+	+	+						-	+	+	+					
		wä	GL	40	+	-	-	-	+	+	+								0	0	0				
		wä	GL	60					+	+	+								-	-	-				
		wä	GL	80					0	+	+														
		wä	GL	100						+	+														

1578	palmitic acid	Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor			
			TR	20	+	0	0	0	+	+	+		+				0	0	+	0					+	+		
	hexadecanoic acid		TR	40			0	0	+	+	+						-	-	0	-						+	+	
	cetylic acid		TR	60			-	-	+	+	+									-							+	+
	CH3(CH2)14CO2H		TR	80					+	+	+																+	+
	C16H32O2		TR	100					+	+	+																+	+
			TR	120					+																		+	+

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GK = low concentration; GL = cold saturated solution; H = usual in trade; HK = high concentration; TR = technically pure; VL = diluted solution

+ = resistant; 0 = conditionally resistant; - = non-resistant



## Chemical Resistance

Release Date: 2017-03-22

Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	AI2O3	AI2O3 Sensor	
1579	palm kernel oil	20	+	+	+	+	+	+	+		+	+	+	+	+	+	+	0						
		40	-	+	+	+	+	+	+	+		+	+	+	+	+	0	+	-					
		60		0	0	0	+	+	+	+			+	+	+	0	-	+						
		80					+	+	+	+														
		100					+	+	+	+														
1582	p-toluenesulfonic acid 4-methylbenzenesulfonic acid CH3C6H4SO3H C7H8O3S	wä 10%	20	+	+	+	+	+	+					+	0	+	+	0	+	+	+	+	+	
		wä 10%	40	+	+	+	+	+	+	+					+		+	+		+	+	+	+	+
		wä 10%	60					+	+	+					+		+			+	+	+	+	+
		wä 10%	80					+	+						+					+	+		+	+
		wä 10%	100					+	+						+					+	+			
		wä 50%	20	+	+	+	+	+	+	+					+	-		+		+	+	+	+	+
		wä 50%	40		+	+	+	+	+	+					+		+			+	+	+	+	+
		wä 50%	60					+	+	+					+					+	+		+	+
		wä 50%	80					+	+						+					+	+		+	+
		wä 50%	100					+	+						+					+	+			
1583	pentanol (mixture of isomers) amyl alcohol (mixture of isomers) C5H12O	TR	20	+	+	+	+	+	+	-	+	+	+	+	+	+	0	0	+	+		+	+	
		TR	40	+	+	+	+	+	+	+	0	+	+	+	+	+				+	+		+	+
		TR	60	0	+	+	+	+	+	+	0	+	+	+	+	+				+	+		+	+
		TR	80					+	+	+					+					+	+		+	+
		TR	100					+	+	+					+					+	+		+	+
		TR	120				0	+	+						+						+		+	+

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## Chemical Resistance

Release Date: 2017-03-22

Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor
			1584	perchloroethane	TR	20	-	0	0	+	+	+											
	hexachloroethane	TR	40				+	+	+														
		TR	60				+	+	+														
	Cl3CCCl3	TR	80					+	+														
	C2Cl6	TR	100					+	+														
1585	perchloric acid	wä	10%	20	+	+	+	+	+	-	-	0		-	0		0	+		-	+		
		wä	10%	40	+	+	+	+	+						-			+		-	+		
		wä	10%	60	0	+	+	+	+													+	
		wä	10%	80				+	+	+													
	HClO4	wä	10%	100				+	+	+													
		wä	70%	20	0	0	0	+	+	+	-	-	0		-	0		0	+	-	+		
		wä	70%	40	-	-	-	+	+	+						-			+	-	+		
		wä	70%	60		-		+	+	+												+	
		wä	70%	80				+	+	+													
		wä	70%	100				+	+	+													
		wä	70%	120				+	+	+													
1586	kerosene	TR	20	+	+	+	+	+	+	+		+	+	+	+	-	+	-	+	+		+	+
		TR	40		+	0	0	+	+	+		+	+	+	+	+		+	+			+	+
		TR	60		0	0	0	+	+	+		+	+	+	+	0			+	+		+	+
		TR	80					+	+	+		+	+	+					+	+		+	+
		TR	100					+	+	+		+	+	+					+	+		+	+
		TR	120					+	+	+		+	+	+					+	+		+	+

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Release Date: 2017-03-22

	Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSIC	Carbon	Al2O3	Al2O3 Sensor	
<b>1588</b> phenol hydroxybenzene C6H5OH C6H6O	wä	10%	20	+	+	+	+	+	+	+		-	+	+	+	-	+	+	0	+	+		+	+	
	wä	10%	40	0	+	+	+	+	+	+			+	+	+		+	+	-	+	+		+	+	
	wä	10%	60	0	0	+	+	+	+	+			+	+	+		+	+		+	+		+	+	
	wä	10%	80					+	+	+			+	+	+		0	0		+	+		+	+	
	wä	10%	100					+	+	+			+	+	+					+	+				
	wä	90%	20	-	+	+	+	+	+	+			+	+	+		-	-	+	-	+	+		+	+
	wä	90%	40	-	+	+	+	+	+	+			+	+	+			0			+	+		+	+
	wä	90%	60	-	0	0	0	+	+	+			+	+	+				-		+	+		+	+
	wä	90%	80					+	+	+			+	+	+						+	+		+	+
	wä	90%	100					+	+	+			+	+	+						+	+			
<b>1590</b> phenylhydrazine C6H5NHNH2 C6H8N2		TR	20	-	0	0	0	+	+	+							-	0	+	-					
		TR	40					+	+	+								+							
		TR	60						+	+									0						
		TR	80						+	+															
		TR	100						+	+															
<b>1591</b> phosgene carbonyl dichloride carbonic acid dichloride COCl2 CCl2O	gf	HK	20	+	0	0	0	0	+	+							+	+	+	+					
	gf	HK	40	0	0	0	0	0	+	+							+	+	+	0					
	gf	HK	60	0	0				+	+							+	+	0						
	gf	HK	80						+	+															
	gf	HK	100						+	+															
	gf	HK	120						+	+															

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## Chemical Resistance

Release Date: 2017-03-22

Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor	
1594	phosphine phosphane	TR	20	+					+	+	0				-	+	+	+						
		TR	40	+					+	+														
		TR	60						+	+														
		TR	80						+	+														
		TR	100						+	+														
1595	phosphorus(III) chloride phosphorus trichloride	TR	20	-	0	0	-	+	+	+	-				-	-		-		+	-	+		
		TR	40		-	-		+	+	+										+		+		
		TR	60					+	+											+		+		
		TR	80																					
1596	phosphorus(V) oxide phosphorus pentoxide	TR	20	+	+	+	+	+	+						0	+	+	+						
		TR	40	+	+			+	+	+						-	+	+	+					
		TR	60					+	+	+							+	+	+					
		TR	80					+	+	+														
		TR	100					+	+	+														
1597	phosphoryl chloride phosphoroxo chloride phosphoric acid trichloride	TR	20	-	0	0	-	+	+	+	-				-	-		-		+	-	+		
		TR	40		-	-		0	+	+										+		+		
		TR	60					-	+	+										+		+		
		TR	80						+	+														
		TR	100						+	+														
1598	phthalic acid benzene-1,2-dicarboxylic acid	GL	20	+	+	+	+	+	+		+			+	-	+	-	+		+	+	+	+	
		GL	40	0	+	+	+	+	+	+					+		+	+		+	+	+	+	
		GL	60	-	+	+	+	+	+	+					+	0				+	+	+	+	
		GL	80					+	+	+					+					+		+	+	
		GL	100					+	+	+					+					+				

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## Chemical Resistance

Release Date: 2017-03-22

Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor	
<b>1599</b>	<b>phthalic acid monopentyl ester</b> monopentyl phthalate Monoamyl phthalate 2-(HO2C)C6H4CO2CH2(CH2)3CH3 C13H16O4	TR	20	-	+	+	+	+	+		-	+	+	+					+	+		+	+	
		TR	40						+	+			+	+	+					+	+		+	+
		TR	60						+	+			+	+	+					+	+		+	+
		TR	80						+	+			+	+	+						+		+	+
		TR	100						+	+			+	+	+						+		+	+
<b>1600</b>	<b>phthalic acid monobutyl ester</b> monobutyl phthalate  2-(HO2C)C6H4CO2CH2(CH2)2CH3 C12H14O4	TR	20	-	+	+	+	+	+		-	+	+	+					+	+		+	+	
		TR	40		+				+	+			+	+	+					+	+		+	+
		TR	60						+	+			+	+	+					+	+		+	+
		TR	80						+	+			+	+	+						+		+	+
		TR	100						+	+			+	+	+						+		+	+
<b>1601</b>	<b>picric acid</b> 2,4,6-trinitrophenol  C6H2(NO2)3OH C6H3N3O7	wä	VL	20	+	+	+	+	+	+		+	+	+	+	+	+							
		wä	VL	40		+			+	+	+					-	+	+	0					
		wä	VL	60					+	+	+						0	+	-					
		wä	VL	80					+	+	+													
		wä	VL	100					+	+	+													
		wä	GL	20	+	+	+	+	+	+	+		+	+	+	0	0	+	0					
		wä	GL	40		+			+	+	+							-	+	-				
		wä	GL	60					+	+	+								0					
		wä	GL	80						+	+													
		wä	GL	100						+	+													

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## Chemical Resistance

Release Date: 2017-03-22

	Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor	
<b>1603</b> polyaluminium chloride PAC Aln(OH)xCl3n-x HxAlnCl3n-xOx	wä	10%	20	+	+	+	+	+	+	+	+	+	-	0	+	+	+	+	+	+	+	+	+	+	
	wä	10%	40	+	+	+	+	+	+	+	+	+		-	+	+	+	+	+	+	+	+	+	+	
	wä	10%	60	+	+	+	+	+	+	+	0	0			+	+	+	+	+	+	+	+	+	+	
	wä	10%	80			+	+	+	+	+					+	+	+	+	+	+	+	+	+	+	
	wä	10%	100					+	+	+					+	+	+	+	+	+	+	+	+	+	
	wä	GL	20	+	+	+	+	+	+	+				-	-	+	+	+	+	+	+	+	+	+	
	wä	GL	40	+	+	+	+	+	+	+					+	+	+	+	+	+	+	+	+	+	
	wä	GL	60	+	+	+	+	+	+	+					+	+	+	+	+	+	+	+	+	+	
	wä	GL	80			+	+	+	+	+					+	+	+	+	+	+	+	+	+	+	
	wä	GL	100					+	+	+					+	+	+	+	+	+	+	+	+	+	
<b>1604</b> polyethylene glycol polyglycol, PEG Carbowax HO(CH2CH2O)nH C2H4O		TR	20		+	+	+		+	+					+	+	+	+		+	+		+	+	
		TR	40		+	+	+		+	+					+	+	+	+		+	+		+	+	
		TR	60		+	+	+		+	+					+					+	+		+	+	
		TR	80						+	+					+						+	+		+	+
		TR	100						+	+					+						+	+		+	+
		TR	120						+	+					+						+	+		+	+
<b>1605</b> propane CH3CH2CH3 C3H8	gf	HK	20	+	+	+	+	+	+	+		+				+	-	+	-						
	gf	HK	40		+			+	+	+		+													
	gf	HK	60					+	+	+		+													
	gf	HK	80					+	+	+															
	gf	HK	100						+	+															

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## Chemical Resistance

Release Date: 2017-03-22

Condition	Concentration	Temperature [°C]	Material																				
			PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor
<b>1606</b> 1-propanol propyl alcohol CH3CH2CH2OH C3H8O	TR	20	+	+	+	+	+	+	+	-												+	+
	TR	40	0	+	+	+	+	+	+													+	+
	TR	60	0	+	+	+	+	+	+													+	+
	TR	80					0	+	+							0	0					+	+
	TR	100						+	+								-					+	+
<b>1607</b> propargyl alcohol 2-propin-1-ol ethynylcarbinol HCCCH2OH C3H4O	wä	10%	20	+	+	+	+	+	+													+	+
	wä	10%	40	+	+	+	+	0	+	+												+	+
	wä	10%	60	+	+	+	+	0	+	+												+	+
	wä	10%	80						+	+												+	
	wä	10%	100						+	+												+	
<b>1608</b> propionic acid propanoic acid methylacetic acid CH3CH2CO2H C3H6O2	wä	50%	20	+	+	+	+	+	+													+	+
	wä	50%	40	+	+	+	+	+	+													+	+
	wä	50%	60	0	+	+		+	+													+	+
	wä	50%	80						+	+												+	+
	wä	50%	100						+	+												+	
	TR	20	+	+	+	+	+	+	+													+	+
	TR	40	0	0	0	0	+	+	+													+	+
	TR	60		0	0	0	+	+	+													+	+
	TR	80						+	+													+	+
TR	100						+	+													+		

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Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor
1609 propylene glycol  CH3CH(OH)CH2OH C3H8O2	1,2-propanediol	TR	20	+	+	+		+	+	-	+	+	+	+	+	+	+	+	+	+	+	+	+
		TR	40		+	+		+	+		+	+	+	+	0	+	+	+	+	+		+	+
		TR	60		+	+		+	+		+	+	+	+		+	0	+	+	+		+	+
		TR	80						+	+			+	+							+		
		TR	100						+	+			+	+							+		
		TR	120						+	+			+	+							+		
1610 1,2-epoxypropane propene oxide  C3H6O	propylene oxide	TR	20	0	+	+	+	-	+	+					-	+	-	-					
1611   C5H5N	pyridine	TR	20	-	+	0	0	+	+	+	-	0		+	-	+	-	0	+	+		+	+
		TR	40		0	0	0	0	+	+				+		0	-	-	+	+		+	+
		TR	60		0	0	0	-	+	+				+		-				+		+	
		TR	80						+	+				+							+		
		TR	100						+	+				+							+		
1612   Hg	mercury	TR	20	+	+	+	+	+	+		+	+	+	+	+	+	+	+	+			+	+
		TR	40	+	+	+	+	+	+		+	+	+	+	+	+	+	+	+			+	+
		TR	60	+	+	+	+	+	+		+	+	+	+	+	+	+	+	+			+	+
		TR	80					+	+	+							+		+			+	+
		TR	100					+	+	+									+			+	+
		TR	120					+	+	+									+			+	+

**Abbreviations:** fe = humid; fl = liquid; gf = gaseous; tr = dry; wä = aqueous solution

GK = low concentration; GL = cold saturated solution; H = usual in trade; HK = high concentration; TR = technically pure; VL = diluted solution

+ = resistant; 0 = conditionally resistant; - = non-resistant



## Chemical Resistance

Release Date: 2017-03-22

Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor	
1613	mercury(II) sulfate	wä	GL	20	+	+	+	+	+	+	+						+		+	+		+	+	
		wä	GL	40	+	+	+	+	+	+		+			+			+		+	+		+	+
		wä	GL	60		+	+	+	+	+		+			+					+	+		+	+
		wä	GL	80					+	+	+				+						+		+	+
		wä	GL	100					+	+	+													
HgSO4																								
HgO4S																								
1614	mercury(II) chloride	wä	VL	20	+	+	+	+	+	+		+	+	+	+	+	+	+	+	+	+	+	+	
		wä	VL	40	+	+	+	+	+	+			+	+	+	+	+	+	+	+	+	+	+	+
		wä	VL	60	0	+	+	+	+	+			+	+	+		+	+	+	+	+	+	+	+
		wä	VL	80					+	+	+				+					+	+		+	+
		wä	VL	100						+	+				+					+	+			
		wä	GL	20	+	+	+	+	+	+			+	+	+	+	+	+	+	+	+	+	+	+
		wä	GL	40	+	+	+	+	+	+			+	+	+	+	+	+	+	+	+	+	+	+
		wä	GL	60	0	+	+	+	+	+			+	+	+	+	+	+	+	+	+	+	+	+
		wä	GL	80					+	+	+				+					+	+		+	+
		wä	GL	100						+	+				+					+	+			
HgCl2																								
Cl2Hg																								
1615	mercury(II) cyanide	wä	VL	20	+	+	+	+	0	+	+				-		+	+		+	+		+	
		wä	VL	40	+	+	+	+		+	+				-		+	0		+	+		+	+
		wä	VL	60	0	+	+			+	+				-					+	+		+	
		wä	VL	80						+	+				-						+			
		wä	VL	100						+	+				-						+			
		wä	GL	20	+	+	+	+	-	+	+				-		+	0		+	+		+	+
		wä	GL	40	+	+	+	+		+	+				-		+	-		+	+		+	+
		wä	GL	60	0	+	+			+	+				-					+	+		+	
		wä	GL	80						+	+				-						+			
		wä	GL	100						+	+				-						+			
Hg(CN)2																								
C2HgN2																								

**Abbreviations:** fe = humid; fl = liquid; gf = gaseous; tr = dry; wä = aqueous solution

GK = low concentration; GL = cold saturated solution; H = usual in trade; HK = high concentration; TR = technically pure; VL = diluted solution

+ = resistant; 0 = conditionally resistant; - = non-resistant





## Chemical Resistance

Release Date: 2017-03-22

	Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSIC	Carbon	Al2O3	Al2O3 Sensor	
1616  Hg(NO3)2 HgN2O6	wä	25%	20	+	+	+	+	+	+	+					+		+	+		+	+	+	+	+	
	wä	25%	40	+	+	+	+	+	+	+					+		+	+		+	+	+	+	+	
	wä	25%	60	0	+	+	+	+	+	+					+					+	+	+	+	+	
	wä	25%	80					+	+	+					+						+		+	+	
	wä	25%	100					+	+	+					+							+		+	
	wä	GL	20	+	+	+	+	+	+	+					+		+	+		+	+	+	+	+	
	wä	GL	40	+	+	+	+	+	+	+					+		+	+		+	+	+	+	+	
	wä	GL	60	0	+	+	+	+	+	+					+					+	+	+	+	+	+
	wä	GL	80					+	+	+					+						+		+	+	+
	wä	GL	100					+	+	+					+						+		+	+	+
1619  SO2 O2S	gf	GK	20	+	+	+	+		+	+		+				-	+	+	+						
	gf	GK	40	+	+	+	+		+	+							+	+	+						
	gf	GK	60	+	+	+	+		+	+							+	+	+						
	gf	GK	80						+	+							+	+							
	gf	GK	100						+	+															
	gf	GK	120						+	+															
1620 2-hydroxybenzoic acid  HOC6H4CO2H C7H6O3	wä	GL	20	+	+	+	+	+	+	+					+	+		+		+	+	+	+	+	
	wä	GL	40	+	+	+	+	+	+	+					+	+		+		+	+	+	+	+	
	wä	GL	60	0	+	+	+	+	+	+					+	0		+		+	+	+	+	+	
	wä	GL	80					+	+	+					+	-		+		+	+		+	+	
	wä	GL	100					0	+	+					+					+	+		+	+	

**Abbreviations:** fe = humid; fl = liquid; gf = gaseous; tr = dry; wä = aqueous solution

GK = low concentration; GL = cold saturated solution; H = usual in trade; HK = high concentration; TR = technically pure; VL = diluted solution

+ = resistant; 0 = conditionally resistant; - = non-resistant



## Chemical Resistance

Release Date: 2017-03-22

		Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor	
<b>1621</b>	<b>nitric acid</b>	wä	10%	20	+	+	+	+	+	+	+	-	+			+	-	+	+	+	+	+	+	+	+	
		wä	10%	40	+	+	0	0	+	+	+		+				+		+		+	+	+	+	+	+
		wä	10%	60	0		-	-	+	+	+						+		0				+		+	
		wä	10%	80					+	+	+						+						+		+	
		wä	10%	100					+	+	+						+						+		+	
		wä	30%	20	+	0	0	0	+	+	+	-	+				+	-	+	+		+	+	+	+	+
		wä	30%	40	+	0	-	-	+	+	+		+				+		0			+	+	+	+	+
		wä	30%	60	0				+	+	+						+						+		+	
		wä	30%	80					+	+	+						+								+	
		wä	30%	100					+	+	+						+								+	
		wä	50%	20	+	0	-	-	+	+	+	-	0				+	-	-	+		+	+	+	+	+
		wä	50%	40	+	-			+	+	+		-				+					+	+	0	+	+
		wä	50%	60	0				+	+	+						+						+		+	
		wä	50%	80					+	+	+						+								+	
		wä	65%	20	0	-	-	-	+	+	+	-	-				+	-	-	-	-	+	+	0	+	+
		wä	65%	40	0				+	+	+						+					+	+	-	+	+
		wä	70%	20	0	-	-	-	+	+	+	-	-				+	-	-	-	-	+	+	0	+	
		wä	70%	40	-				+	+	+						+					+	+	-	+	
		wä	98%	20	-	-	-	-	0	+	+	-	-						-	-	-	-	-	-	-	
		wä	98%	40					-	+	+															
<b>1622</b>	<b>nitrous acid</b>	wä	VL	20					+	+	+	-					0	+	+	+						
		wä	VL	40					+	+	+							-	+	+	0					
		wä	VL	60					+	+	+									+	-					
		wä	VL	80					+	+	+															
		wä	VL	100						+	+															

**Abbreviations:** fe = humid; fl = liquid; gf = gaseous; tr = dry; wä = aqueous solution

GK = low concentration; GL = cold saturated solution; H = usual in trade; HK = high concentration; TR = technically pure; VL = diluted solution

+ = resistant; 0 = conditionally resistant; - = non-resistant

## Chemical Resistance

Release Date: 2017-03-22

Condition	Concentration	Temperature [°C]	Material																					
			PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1.4301	V4A 1.4571	Hast-C 2.4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor	
1623  HCl	hydrochloric acid	wä 5% 20	+	+	+	+	+	+	+	+	0	+	-	-	+	+	+	+	+	+	+	+	+	
		wä 5% 40	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	0	+	+	+	+	+	+
		wä 5% 60	0	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	-	+	+	+	+	+
		wä 5% 80			0	0	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
		wä 5% 100					+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
		wä 10% 20	+	+	+	+	+	+	+	+	0	+	-	-	+	0	+	+	+	+	+	+	+	+
		wä 10% 40	+	+	+	+	+	+	+	+	+	+	+	+	+	-	+	+	0	+	+	+	+	+
		wä 10% 60	0	+	0		+	+	+	+	+	+	+	+	+	+	+	0	-	+	+	+	+	+
		wä 10% 80			0		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
		wä 10% 100					+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
		wä 20% 20	+	+	+	+	+	+	+	+	-	+	-	-	+	-	+	+	+	+	+	+	+	+
		wä 20% 40	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	0		+	+	+	+	+
		wä 20% 60	0	+	0		+	+	+	+	+	+	+	+	+	+	+	-		+	+	+	+	+
		wä 20% 80			0		+	+	+	+	+	+	+	+	+	+	-			+	+	+	+	+
		wä 20% 100					+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
		wä 30% 20	+	+	+	+	+	+	+	+	-	+	-	-	+	-	+	+	+	+	+	+	+	+
		wä 30% 40	+	+	+	0	+	+	+	+	+	+	+	+	+	+	+	0	0	+	+	+	+	+
		wä 30% 60	0	0	0		+	+	+	+	+	+	+	+	+	+	+	-	-	+	+	+	+	+
		wä 30% 80			-	-	+	+	+	+	+	+	+	+	+	+	-			+	+	+	+	+
		wä 37% 20	+	+	+	+	+	+	+	+	-	+	-	-	+	-	+	+		+	+	+	+	+
wä 37% 40	+	+	+	0	+	+	+	+	+	+	+	+	+	+	0	-		+	+	+	+	+		
1624  NaCl ClNa	brine	wä GL 20	+	+	+	+	+	+	+	+	+	0	0	+	+	+	+	+	+	+	+	+		
		wä GL 40	+	+	+	+	+	+	+	+	+	0	0	+	+	+	+	+	+	+	+	+	+	
		wä GL 60	+	+	+	+	+	+	+	+	+	-	-	+	+	+	+	+	+	+	+	+	+	
		wä GL 80			+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
		wä GL 100					+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	

**Abbreviations:** fe = humid; fl = liquid; gf = gaseous; tr = dry; wä = aqueous solution

GK = low concentration; GL = cold saturated solution; H = usual in trade; HK = high concentration; TR = technically pure; VL = diluted solution

+ = resistant; 0 = conditionally resistant; - = non-resistant



## Chemical Resistance

Release Date: 2017-03-22

	Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSIC	Carbon	Al2O3	Al2O3 Sensor			
O <sub>2</sub>	gf	oxygen	20	+	+	+	+	+	+	+		+				-	+	+	+								
			40	+	+	0	0	+	+	+	+		+					+	+	+							
			60	+	0	0	0	+	+	+	+		+						+	+	+						
			80					0	+	+									+	+	+						
			100					0	+	+										+	+						
			120							+	+									+							
soft soap		soap	20	+	+	+	+	+	+	+						+	+	+	+	+	+	+	+	+	+		
			40	+	+	+	+	+	+	+						+	+	+	+	+	+	+	+	+	+	+	
			60	0	+	+	+	+	+	+						+	+	+	+	+	+	+	+	+	+	+	+
			80					+	+	+						+					+	+	+			+	+
			100					+	+	+						+					+	+					
S <sub>8</sub>		sulfur	20	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+							
			40	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+						
			60		+	+	+	+	+	+					+	+	+		+	+	+						
			80			+	+	+	+	+					+	+	+		+	+	+						
			100					+	+	+					+	+	+		+	+	+						

**Abbreviations:** fe = humid; fl = liquid; gf = gaseous; tr = dry; wä = aqueous solution

GK = low concentration; GL = cold saturated solution; H = usual in trade; HK = high concentration; TR = technically pure; VL = diluted solution

+ = resistant; 0 = conditionally resistant; - = non-resistant



## Chemical Resistance

Release Date: 2017-03-22

		Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor				
SO2 O2S	1629	gf, tr	sulfur dioxide, gaseous	20	+	+	+	+	0	+	+		0		+	+	-	+	+	0									
				20	+	+	+	+	+	+		+	+		+		+	+	-	+	+	0							
				40	+	+	+	+	+	+	0	+	+					+	+		+	0							
				40	+	+	+	+	+	+	0	+	+					+	+		+	0							
				60							-	+	+					+	+		+	0							
				60	0	+	+	+	+	-	+	+									+	0							
				80								+	+																
				80								+	+																
				100								+	+																
				100								+	+																
				120								+	+																
				120								+	+																

**Abbreviations:** fe = humid; fl = liquid; gf = gaseous; tr = dry; wä = aqueous solution

GK = low concentration; GL = cold saturated solution; H = usual in trade; HK = high concentration; TR = technically pure; VL = diluted solution

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# Chemical Resistance

Release Date: 2017-03-22

Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSIC	Carbon	Al2O3	Al2O3 Sensor			
1632	sulfuric acid	wä 5%	20	+	+	+	+	+	+	+	+	-	-	+	0	+	+	+	+	+	+	+	+			
		wä 5%	40	+	+	+	+	+	+	+	+	+	-	-	+	-	+	+	+	+	+	+	+	+		
		wä 5%	60	0	+	+	+	+	+	+	+	+	-	-	+	+	+	0	+	+	+	+	+	+		
		wä 5%	80			+	+	+	+	+	+	+	-	-	+	+	+	0	+	+	+	+	+	+		
		wä 5%	100					+	+	+	+	+	-	-	+	+	+	+	+	+	+	+	+	+		
		wä 10%	20	+	+	+	+	+	+	+	0	+	-	-	+	0	+	+	+	+	+	+	+	+	+	
		wä 10%	40	+	+	+	+	+	+	+	+	+	-	-	+	-	+	+	+	+	+	+	+	+	+	
		wä 10%	60	0	+	+	+	+	+	+	+	+	-	-	+	+	+	0	+	+	+	+	+	+	+	
		wä 10%	80			+	+	+	+	+	+	+	-	-	+	+	+	0	+	+	+	+	+	+	+	
		wä 10%	100					+	+	+	+	+	-	-	+	+	+	+	+	+	+	+	+	+	+	
		wä 20%	20	+	+	+	+	+	+	+	+	+	-	-	+	-	+	+	+	+	+	+	+	+	+	
		wä 20%	40	+	+	+	+	+	+	+	+	+	-	-	+	+	+	+	+	+	+	+	+	+	+	
		wä 20%	60	0	+	+	+	+	+	+	+	+	-	-	+	+	+	0	+	+	+	+	+	+	+	
		wä 20%	80			+	+	+	+	+	+	+	-	-	+	+	+	0	+	+	+	+	+	+	+	
		wä 20%	100					+	+	+	+	+	-	-	+	+	+	+	+	+	+	+	+	+	+	
		wä 40%	20	+	+	+	+	+	+	+	+	-	+	-	-	+	0	+	+	+	+	+	+	+	+	+
		wä 40%	40	+	+	+	+	+	+	+	+	+	+	-	-	+	-	+	+	+	+	+	+	+	+	+
		wä 40%	60	0	+	+	+	+	+	+	+	+	+	-	-	+	+	+	0	+	+	+	+	+	+	+
		wä 40%	80			+	+	+	+	+	+	+	+	-	-	+	+	+	0	+	+	+	+	+	+	+
		wä 40%	100					+	+	+	+	+	+	-	-	+	+	+	+	+	+	+	+	+	+	+
		wä 50%	20	+	+	+	+	+	+	+	+	-	0	-	-	+	-	+	+	+	+	+	+	+	+	+
		wä 50%	40	+	+	+	+	+	+	+	+	0	+	-	-	+	+	+	0	+	+	+	+	+	+	+
		wä 50%	60	0	+	+	+	+	+	+	+	+	+	-	-	+	0	+	0	+	+	+	+	+	+	+
		wä 50%	80			+	+	+	+	+	+	+	+	-	-	+	+	+	+	+	+	+	+	+	+	+
		wä 50%	100					+	+	+	+	+	+	-	-	+	+	+	+	+	+	+	+	+	+	+
		wä 60%	20	+	+	+	+	+	+	+	+	-	0	-	-	+	-	+	+	+	+	+	+	+	+	+
		wä 60%	40	+	+	+	+	+	+	+	+	0	+	-	-	+	+	+	0	+	+	+	+	+	+	+
		wä 60%	60	0	+	+	+	+	+	+	+	+	+	-	-	+	+	+	0	+	+	+	+	+	+	+

**Abbreviations:** fe = humid; fl = liquid; gf = gaseous; tr = dry; wä = aqueous solution  
 GK = low concentration; GL = cold saturated solution; H = usual in trade; HK = high concentration; TR = technically pure; VL = diluted solution  
 + = resistant; 0 = conditionally resistant; - = non-resistant



## Chemical Resistance

Release Date: 2017-03-22

Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor	
wä	60%	80			+	+	+	+	+							-	+	-	+	+		+	+	
wä	60%	100					+	+	+										+					
wä	70%	20	+	+	+		+	+	+	-	0	-	-	+		+	+		+	+		+	+	
wä	70%	40	+	+	+		+	+	+					+		+	+	0	+	+		+	+	
wä	70%	60					+	+	+					+					+	+		+		
wä	70%	80					+	+	+							-			+	+		+		
wä	70%	100						+	+										+					
wä	80%	20	+	+	+		+	+	+	-	0	-	-	+	-	+	+	+	+	+		+	+	
wä	80%	40	+	+	+		+	+	+					+		0	+	0	+	+		+	+	
wä	80%	60	-	0	0		+	+	+					+		-	0	-	+	+		+		
wä	80%	80					+	+	+								-		+	+		+		
wä	80%	100					0	+	+										+					
wä	96%	20	0	-	-	-	+	+	+	-	-	-	-	+	-	-	0	-	+	+	-	+	+	
wä	96%	40	-				+	+	+					+		-			+	+		+	+	
wä	96%	60					0	+	+					+						+		+		
wä	96%	80					-	+	+											+		+		
wä	96%	100						+	+															
wä	98%	20	-	-	-	-	+	+	+	-	-			+	-	-	-	-	+	+	-	+	+	
wä	98%	40					+	+	+					+					+	+		+	+	
wä	98%	60					-	+	+				-	+					0	+		+		
wä	98%	80						+	+										-	+		+		
wä	98%	100						+	+															

**Abbreviations:** fe = humid; fl = liquid; gf = gaseous; tr = dry; wä = aqueous solution

GK = low concentration; GL = cold saturated solution; H = usual in trade; HK = high concentration; TR = technically pure; VL = diluted solution

+ = resistant; 0 = conditionally resistant; - = non-resistant



## Chemical Resistance

Release Date: 2017-03-22

Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor	
																							Al2O3	
<b>1634</b> sulfur trioxide  sulfuric acid anhydride	gf	HK	20	-	-	-	0	+	+							-	-	-	+					
	gf	HK	40					+	+										+					
	gf	HK	60					+	+										+					
	SO3	gf	HK	80					+	+														
	O3S	gf	HK	100					+	+														
		gf	HK	120					+	+														
<b>1635</b> hydrogen sulfide  H2S	wä	VL	20	+	+	+	+	+	+							-	+	+	+	+	+	+	+	
	wä	VL	40	+	+	+	+	+	+							0		+	+	+	+	+	+	
	wä	VL	60	0	+	+	+	+	+							-	0	+	+			+	+	
	wä	VL	80					+	+	+								-	+	+			+	+
	wä	VL	100					+	+	+									+	+			+	
	gf	HK	20	+	+	+	+	+	+		0					-	+	+	+					
	gf	HK	40	+	+	+	+	+	+							0		0	+					
	gf	HK	60	+	0	+	+	+	+							-	0	+						
	gf	HK	80					+	+	+								-	+					
	gf	HK	100					+	+	+									+					
	gf	HK	120					+	+															
	wä	GL	20	+	+	+	+	+	+	+						-	+	+	+	+	+	+	+	
	<b>1636</b> sulfurous acid  sulfur dioxide, aqueous solution  SO3 • xH2O ("H2SO3") O3S ("H2O3S")	wä	GL	20	+	+	+	+	+	+	-				+	-	+	+	0	+	+	+	+	
wä		GL	40	+	+	+	+	+	+					+	0	+	0	+	+	+	+	+		
wä		GL	60	0	+	+	+	+	+					+	-	0	-	+	+	+	+	+		
SO3 • xH2O ("H2SO3")		wä	GL	80				+	+	+				+			-			+		+		
O3S ("H2O3S")		wä	GL	100				+	+	+				+						+				

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GK = low concentration; GL = cold saturated solution; H = usual in trade; HK = high concentration; TR = technically pure; VL = diluted solution

+ = resistant; 0 = conditionally resistant; - = non-resistant





## Chemical Resistance

Release Date: 2017-03-22

Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor
			1637	soap hydrous solution	20	+	+	+	+	+	+	+		+	+	+	+	+	+	+	+		
		40	+	+	+	+	+	+	+		+	+	+	+	+	+	+	+					
		60	0	+	+	+	+	+	+		+	+	+	+	+	+	+	+					
		80					+	+	+														
		100					+	+	+														
1638	silver acetate	wä	GL	20	+	+	+	+	+						+	+	+	+				+	+
		wä	GL	40	+	+	+	+	+						+	+	+	+				+	+
		wä	GL	60	0	+	+	+	+						+	+	+	+				+	+
	CH3CO2Ag	wä	GL	80				+	+													+	+
	C2H3AgO2	wä	GL	100				+	+														
1639	silver chloride	wä	GL	20	+	+	+	+	+	+	+	+	+	+		+	+		+	+	+	+	+
		wä	GL	40	+	+	+	+	+	+	+	+	+	+		+	+		+	+	+	+	+
		wä	GL	60	+	+	+	+	+		+	+	+	+		+	+		+	+	+	+	+
		wä	GL	80			+	+	+					+		+	+		+	+	+	+	+
	AgCl	wä	GL	100				+	+					+		+		+	+	+	+		
1640	silver cyanide	wä	GL	20	+	+	+	+	+						+	+	+	+				+	+
		wä	GL	40	+	+	+	+	+						+	+	+	+				+	+
		wä	GL	60	0	+	+	+	+						+	+	+	+				+	+
	AgCN	wä	GL	80				+	+														
	C <sub>Ag</sub> N	wä	GL	100				+	+														
1641	silver nitrate	wä	GL	20	+	+	+	+	+			+	+	+	+	+	+	+				+	+
		wä	GL	40	+	+	+	+	+			+	+	+	+	+	+	+				+	+
		wä	GL	60	-	+	+	+	+			+	+	+	+	+	+	+				+	+
		wä	GL	80				+	+			+	+	+								+	+
	AgNO3	wä	GL	100				+	+			+	+	+									

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GK = low concentration; GL = cold saturated solution; H = usual in trade; HK = high concentration; TR = technically pure; VL = diluted solution

+ = resistant; 0 = conditionally resistant; - = non-resistant



## Chemical Resistance

Release Date: 2017-03-22

	Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSIC	Carbon	Al2O3	Al2O3 Sensor
1642 silver sulfate  Ag2SO4 Ag2O4S	wä	GL	20						+	+								+		+	+	+	+	+
	wä	GL	40						+	+								+		+	+	+	+	+
	wä	GL	60						+	+								+		+	+	+	+	+
	wä	GL	80						+	+								+		+	+	+	+	+
	wä	GL	100						+	+											+			
1643 silicone oil polydimethylsiloxane  HO[Si(CH3)2O]nH C2H6OSi		TR	20	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
		TR	40		+	+	+	+	+	+	+		+	+	+	+	+	+	+	+	+	+	+	+
		TR	60		+	+	+	+	+	+			+	+	+	+	+	+	+	+	+	+	+	+
		TR	80			+	+	+	+	+			+	+	+	+					+	+	+	+
		TR	100			+	+	+	+	+			+	+	+	+					+	+	+	+
		TR	120					+	+	+											+	+	+	+
1644 sperm oil			20	+	+	+	+	+	+	+				+		+	0	+	0					
			40						+	+														
			60						+	+														
			80						+	+														
			100						+	+														

**Abbreviations:** fe = humid; fl = liquid; gf = gaseous; tr = dry; wä = aqueous solution

GK = low concentration; GL = cold saturated solution; H = usual in trade; HK = high concentration; TR = technically pure; VL = diluted solution

+ = resistant; 0 = conditionally resistant; - = non-resistant



## Chemical Resistance

Release Date: 2017-03-22

Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSIC	Carbon	Al2O3	Al2O3 Sensor
			<b>1646</b>	<b>spin bath acid with carbondisulfide</b>	100mgCS2/L	20	+	+	+	+	+	+		0				-	+	+	0		
		100mgCS2/L	40	+	+	+	+	+	+														
		100mgCS2/L	60	+	-	0	0	+	+														
		100mgCS2/L	80					+	+														
		100mgCS2/L	100					+	+														
		200mgCS2/L	20	0	+	+	+	+	+						-	+	+	0					
		200mgCS2/L	40	0			+	+	+							+	+	0					
		200mgCS2/L	60					+	+														
		200mgCS2/L	80					+	+														
		200mgCS2/L	100					+	+														
		700mgCS2/L	20	-	+	+	+	+	+						-	0	+	-					
		700mgCS2/L	40				+	+	+							0	+						
		700mgCS2/L	60					+	+														
		700mgCS2/L	80					+	+														
		700mgCS2/L	100					+	+														
<b>1649</b>	<b>starch</b>	wä	GL	20	+	+	+	+	+		+	+	+	+	+	+	+	+	+	+	+	+	+
		wä	GL	40	+	+	+	+	+		+	+	+	+	+	+	+	+	+	+	+	+	+
		wä	GL	60	0	+	+	+	+		+	+	+	+	+	+	+	+	+	+	+	+	+
(C6H10O5)n		wä	GL	80			+	+	+			+	+	+	+	+	+	+	+	+	+	+	+
C6H10O5		wä	GL	100				+	+			+	+	+		+	+	+	+	+	+	+	+
<b>1650</b>	<b>starch sirup</b>		H	20	+	+	+	+	+		+	+	+	+	+	+	+	+	+	+	+	+	+
			H	40	+	+	+	+	+		+	+	+	+	+	+	+	+	+	+	+	+	+
			H	60	0	+	+	+	+		+	+	+	+	+	+	+	+	+	+	+	+	+
			H	80			+	+	+			+	+	+	+	+	+	+	+	+	+	+	+
			H	100				+	+			+	+	+		+	+	+	+	+	+	+	+

**Abbreviations:** fe = humid; fl = liquid; gf = gaseous; tr = dry; wä = aqueous solution

GK = low concentration; GL = cold saturated solution; H = usual in trade; HK = high concentration; TR = technically pure; VL = diluted solution

+ = resistant; 0 = conditionally resistant; - = non-resistant



## Chemical Resistance

Release Date: 2017-03-22

Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor		
<b>1652</b>	<b>stearic acid</b> octadecanoic acid	TR	20	+	+	+	+	+	+		-	+	+	+	+	+	+	0	+	+		+	+		
		TR	40	+	+	+	+	+	+			+	+	+	+	+	+	+	0	+	+		+	+	
		TR	60	+	0	0	0	+	+	+			+	+	+	0	0	0	-		+		+	+	
		TR	80					+	+	+				+	+						+		+	+	
		TR	100					+	+	+											+				
		TR	120					+													+				
<b>1653</b>	<b>stearic acid butyl ester</b> butylstearate octadecanoic acid butyl ester	TR	20		+	+	+	+	+			+	+	+	+	+	+	0				+	+		
		TR	40		+	+	+	+	+				+	+	+	+	+	+	0				+	+	
		TR	60		0	0	0	+	+	+			+	+	+	0	0	0	-				+	+	
		TR	80					+	+	+			+	+	+								+	+	
		TR	100					+	+	+			+	+	+								+		
		TR	120					+	+				+	+	+								+		
<b>1655</b>	<b>strontium chloride</b> SrCl2 Cl2Sr	wä	GL	20					+	+							+	+		+	+		+	+	
		wä	GL	40						+	+							+	+		+	+		+	+
		wä	GL	60						+	+							+	+		+	+		+	+
		wä	GL	80						+	+							+	+		+	+		+	+
		wä	GL	100						+	+										+	+			
<b>1656</b>	<b>styrene</b> vinylbenzene phenylethylene C6H5CH=CH2 C8H8	TR	20	-	0	0	0	-	+	+		-								+			+	+	
		TR	40	-	-	0	0	-	+	+											+			+	+
		TR	60			-	-		+	+														+	+
		TR	80						+	+														+	+
		TR	100						+	+															

**Abbreviations:** fe = humid; fl = liquid; gf = gaseous; tr = dry; wä = aqueous solution

GL = low concentration; H = usual in trade; HK = high concentration; TR = technically pure; VL = diluted solution

+ = resistant; 0 = conditionally resistant; - = non-resistant



## Chemical Resistance

Release Date: 2017-03-22

Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor		
<b>1657</b>	<b>sulfamic acid</b>	wä	GL	20					+	+										+		+	+		
		wä	GL	40						+	+										+		+	+	
		wä	GL	60						+	+										+		+	+	
		wä	GL	80						+	+										+		+	+	
		wä	GL	100						+	+										+		+	+	
<b>1658</b>	<b>SurTec 104 universal cleaner</b>	wä	8%	20	+	+	+	+	+	+		+	+	+		+	+		+	+	+	+	+		
		wä	8%	40	+	+	+	+	+	+			+	+	+		+	+		+	+	+	+	+	
		wä	8%	60	+	+	+	+	+	+			+	+	+		0	+		+	+	+	+	+	
		wä	8%	80						+	+		+	+	+					+	+		+	+	
		wä	8%	100						+	+		+	+	+					+	+		+	+	
<b>1659</b>	<b>nitrogen</b>	gf	HK	20	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+						
		gf	HK	40	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+					
		gf	HK	60	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+					
		gf	HK	80			+	+	+	+		+	+	+	+	+	+	+	+	+					
		gf	HK	100					+	+	+		+	+	+		+	+		+					
		gf	HK	120					+	+	+		+	+	+		+	+		+					
<b>1660</b>	<b>Tanigan® extra A</b>			20	+				+	+		-				+	+	+	+						
				40					+	+							+	+	+	+					
				60						+	+														
				80						+	+														
				100						+	+														

**Abbreviations:** fe = humid; fl = liquid; gf = gaseous; tr = dry; wä = aqueous solution

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## Chemical Resistance

Release Date: 2017-03-22

Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor
			1661	Tanigan® extra B	20	+					+	+		-				+	+	+	+		
		40						+	+						+	+	+	+					
		60						+	+														
		80						+	+														
		100						+	+														
1662	Tanigan® extra D	20	+					+	+						+	+	+	+					
		40	0					+	+						+	+	+	+					
		60	-					+	+														
		80						+	+														
		100						+	+														
1663	Tanigan® F	20	+					+	+						+	+	+	+					
		40	+					+	+						+	+	+	+					
		60	+					+	+														
		80						+	+														
		100						+	+														
1664	Tanigan® U	20						+	+						+	+	+	+					
		40						+	+						+	+	+	+					
		60						+	+														
		80						+	+														
		100						+	+														
1665	tannin	wä	GL	20	+	+	+	+	+			+	+	+	+	+	+	+				+	+
	tannic acid	wä	GL	40	+	+	+	+	+			+	+	+	+	+	+	+				+	+
	gallotannic acid	wä	GL	60	+	+	+	+	+			+	+	+	+	+	+	+				+	+
		wä	GL	80				+	+													+	+
		wä	GL	100				+	+														

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## Chemical Resistance

Release Date: 2017-03-22

Condition	Concentration	Temperature [°C]	Material														Al2O3 Sensor									
			PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM		FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3			
1666	turpentine	20	+	0	-	-	+	+	+													+	+			
		40	0	0			+	+						0									+	+		
		60		0																				+	+	
		80																						+	+	
		100																						+	+	
1667	turpentine substitute	20	+	0	0	0	+	+	+														+	+		
		40	0	-	-	-	+	+	+															+	+	
		60																							+	+
		80																							+	+
		100																							+	+
1668	oil of turpentine	20	+	0	-	-	+	+	+		0	+	+	+	+	-	+	-	+	+			+	+		
		40	0	0				+	+				+	+	+	0		+		+	+			+	+	
		60											+	+	+										+	+
		80											+	+	+										+	+
		100											+	+	+										+	+
1669	tetrabromomethane carbon tetrabromide CBr4	TR	20	-	-	-	-	+	+	+						-	-	-	-				+	+		
		TR	40					+	+	+														+	+	
		TR	60																						+	+
		TR	80																						+	+
		TR	100																						+	+
1670	1,1,2,2-tetrachloroethane acetylene tetrachloride TCE CHCl2CHCl2 C2H2Cl4	TR	20	-	0	0	0	0	+	+		-				-	-	-	-				+	+		
		TR	40					0	+	+		-												+	+	
		TR	60					0	+	+		-												+	+	
		TR	80																					+	+	
		TR	100																					+	+	

**Abbreviations:** fe = humid; fl = liquid; gf = gaseous; tr = dry; wä = aqueous solution

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## Chemical Resistance

Release Date: 2017-03-22

Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor	
<b>1671</b>	<b>tetrachloroethylene</b>	TR	20	-	0	0	0	+	+	+					0	-	0	-	+	+		+	+	
		TR	40		0			+	+	+						-	0		+	+		+	+	
		TR	60		-	0	0	+	+	+							0		+	+		+	+	
		TR	80					0	+	+										+	+		+	+
		TR	100					0	+	+										+	+		+	+
<b>1672</b>	<b>tetrachloromethane</b>	TR	20	0	-	-	-	+	+	+	+	0	+	+	+	-	-	+	-	+	+		+	+
		TR	40	-				+	+	+	+		+	+	+		+		+	+			+	+
		TR	60					0	+	+			+	+	+		+		+	+			+	+
		TR	80						+	+											+		+	+
		TR	100						+	+											+		+	+
<b>1673</b>	<b>tetraethyllead</b>	TR	20	+	+	+	+	+	+	+			+		0	0	+	-						
		TR	40					+	+	+														
		TR	60					+	+	+														
		TR	80					+	+	+														
		TR	100					+	+	+														
		TR	120					+	+	+														
<b>1674</b>	<b>tetrahydrofuran</b>	TR	20	-	0	0	0	0	+	+	-	-	+	+	+	-	-	-	-	+	+		+	+
		TR	40		-	-	-	-	+	+			+	+	+					+	+		+	+
		TR	60						+	+			+	+	+					+	+		+	+

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## Chemical Resistance

Release Date: 2017-03-22

Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor		
1675 Tetralin®  C10H12	1,2,3,4-tetrahydronaphthalene	TR	20	-	0	-	+	+	+	-	-	-	-	-	-	+	+	+	+	+	+	+	+		
		TR	40					+	+														+	+	
		TR	60					+	+															+	+
		TR	80					+	+															+	+
		TR	100					+	+															+	+
1676 mercaptopoacetic acid  HSCH2CO2H C2H4O2S	thioglycolic acid	TR	20	-	+	+	+	+	+						-										
		TR	40		+	+	+	+	+																
		TR	60		+	+	+	+	+																
		TR	80					+	+																
		TR	100					+	+																
1677 sulfurous acid dichloride  SOCl2 Cl2OS	thionyl chloride	TR	20	-	-	-	+	+	+	-	-				-	-	-	-	+	-	+				
		TR	40				0	+	+											+		+			
		TR	60				-	+	+												+		+		
		TR	80																						
1678   C4H4S	thiophene	TR	20	-	0	0	0	+	+	+	0	+	+	+	-	-	-	-	+		+	+	+		
		TR	40		0	-	-	+	+				+	+	+						+		+	+	
		TR	60					+	+				+	+	+						+		+	+	
		TR	80					+	+				+	+	+						+		+	+	
1679 methylbenzene  C6H5CH3 C7H8	toluene	TR	20	-	0	0	0	+	+	+	-	+	+	+	-	-	+	-	+	+		+	+		
		TR	40		0	-	-	+	+			-	+	+	+		0		+	+		+	+		
		TR	60					0	+	+		-	+	+	+					+	+		+	+	
		TR	80					0	+	+		-	+	+	+					+	+		+	+	
		TR	100					-	+	+		-	+	+	+					+	+		+	+	

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## Chemical Resistance

Release Date: 2017-03-22

Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor
<b>1681</b> tributyl phosphate phosphoric acid tributyl ester TBP (C4H9O)3PO C12H27O4P	TR	20	-	+	+	+	+	+	+													+	+
	TR	40		+	+	+		+	+													+	+
	TR	60		+	+	+		+	+													+	+
	TR	80						+	+													+	+
	TR	100						+	+													+	
<b>1682</b> trichloroacetaldehyde chloral CCI3CHO C2HCl3O	TR	20	-	+	+	+	-	+	+						0	-	0	-					
	TR	40		+	+	+		+	+														
	TR	60		+	+	+		+	+														
	TR	80						+	+														
	TR	100						+	+														
<b>1683</b> trichlorobenzene (mixture of isomers) C6H3Cl3	TR	20	-	-	-	-	-	+	+		-	+	+	+	-	-			+	+		+	+
	TR	40						+	+			+	+	+					+	+		+	+
	TR	60						+	+			+	+	+					+	+		+	+
	TR	80						+	+			+	+	+					+	+		+	+
	TR	100						+	+			+	+	+					+	+		+	+
<b>1684</b> trichloroacetic acid CCI3CO2H C2HCl3O2	wä	50%	20	+	+	+	+	+	+		0			+	-	0	-	-	+				
	wä	50%	40	0	+	+	+	+	+					+					+				
	wä	50%	60		+	+		0	+	+				+					+				
	wä	50%	80					-	+	+				+					+				
	wä	50%	100						+	+													
<b>1685</b> trichloroethylene trichloroethene ClCH=CCl2 C2HCl3	TR	20	-	-	0	0	+	+	+	-	-	+	+	+	-	-	0	-	+			+	+
	TR	40					+	+	+			+	+	+					+			+	+
	TR	60					+	+	+			+	+	+					+			+	+
	TR	80					+	+	+			+	+	+					+			+	+

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## Chemical Resistance

Release Date: 2017-03-22

Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor
<b>1686</b> trichloronitromethane nitrotrichloromethane chloropicrin CCl3NO2	TR	20	+	-	-	-		+	+														
	TR	40						+	+														
	TR	60						+	+														
	TR	80						+	+														
	TR	100						+	+														
<b>1687</b> triethanolamine 2,2',2"-nitrilotriethanol (HOCH2CH2)3N C6H15NO3	TR	20	0	+	+	+	-	+	+				+		-	0	0	-	+			+	+
	TR	40		+	+	+		+	+								-		+			+	+
	TR	60		+	0	0		+	+														
	TR	80						+	+														
	TR	100						+	+														
<b>1688</b> triethylene glycol triglycol HO(CH2CH2O)3H C6H14O4	TR	20		+	+	+		+	+													+	+
	TR	40		+	+	+		+	+													+	+
	TR	60		+	+	+		+	+													+	+
	TR	80						+	+													+	+
	TR	100						+	+													+	
<b>1689</b> trimethyl borate boric acid trimethyl ester (CH3O)3B C3H9BO3	TR	20	-	+	0	0		+	+														
	TR	40		0	-	-		+	+														
	TR	60						+	+														
	TR	80						+	+														
	TR	100						+	+														
<b>1690</b> trioctyl phosphate phosphoric acid trioctyl ester (C8H17O)3PO C24H51O4P	TR	20	-	0	+	+		+	+		-				0	-	-	-					
	TR	40						+	+														
	TR	60						+	+														
	TR	80						+	+														
	TR	100						+	+														

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Release Date: 2017-03-22

Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor	
<b>1692</b>	urine	20	+	+	+	+	+	+	+		+				+	+	+	+						
		40	+	+	+	+	+	+	+	+		+				+	+	+	+					
		60	0	+	+	+	+	+	+	+						+	+	+	+					
		80						+	+	+														
		100						+	+	+														
		120						+	+	+														
<b>1693</b>	vaseline	TR 20	0	0	+	+	+	+	+		+	+	+	+	+	-	+	+						
		TR 40	-	0	0	0	+	+	+		+	+	+	+	+	+	+	+						
		TR 60		-	0	0	+	+	+									+	+					
		TR 80					+	+	+									+	+					
		TR 100					+	+	+									+	+					
		TR 120					+	+	+									+						
<b>1694</b>	vaseline oil paraffin oil	TR 20	+	+	+	+	+	+	+		+	+	+	+	+	-	+	0	+	+		+	+	
		TR 40	+	+	+	+	+	+	+		+	+	+	+	+	+	+	-	+	+		+	+	
		TR 60	0	+	0	0	+	+	+		+	+	+	+	0			+		+	+		+	+
		TR 80					+	+	+		0	+	+	+						+	+		+	+
		TR 100					+	+	+			+	+	+							+		+	+
		TR 120					+	+	+			+	+	+							+		+	+
<b>1695</b>	vinyl acetate acetic acid vinyl ester  CH3CO2CH=CH2 C4H6O2	TR 20	-	+	+	+		+	+		-	-	+	+	+	+	+	+	+					
		TR 40	-	+	0	0		+	+											+				
		TR 60	-	0				+	+															
		TR 80					+	+																
		TR 100					+	+																

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## Chemical Resistance

Release Date: 2017-03-22

Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor	
1696	vinyl chloride chloroethylene H <sub>2</sub> C=CHCl C <sub>2</sub> H <sub>3</sub> Cl	20	-	0	-	-	+	+	+						-	-	0	-	+					
		40		-			+	+	+								0		+					
		60					+	+	+								0							
		80					+	+	+															
		100					+	+	+															
1697	viscose spinning solutions	20	+	+	+	+	+	+	+		-				-	+	+	+						
		40	+	+	+	+	+	+	+							+	+	+						
		60	+	+	+	+	+	+	+							+	+	+						
		80						+	+															
		100						+	+															
1698	1-tetracosanol wax alcohol lignoceryl alcohol CH <sub>3</sub> (CH <sub>2</sub> ) <sub>22</sub> CH <sub>2</sub> OH C <sub>24</sub> H <sub>50</sub> O	20	+	0	0	0	+	+	+		-				+	-	+	-				+	+	
		40	+	0	0	0	+	+	+						+		+	-				+	+	
		60	+	-	-	-	+	+	+						+		+	-				+	+	
		80					+	+														+	+	
		100					+	+														+	+	
1702	water, condensed condensed water H <sub>2</sub> O	20	+	+	+	+	+	+	+	+					+	+	+	+	+	+	+	+	+	
		40	+	+	+	+	+	+	+	+					+	+	+	+	+	+	+	+	+	
		60	0	+	+	+	+	+	+	+					+	0	+	+	+	+	+	+	+	
		80					+	+	+	-					0		+	+	+	+	+	+	+	
		100					+	+	+										+	+	+	+	+	
1703	water, seawater seawater	20	+	+	+	+	+	+	+	+	+	0	0	+	+	+	+	+	+	+	+	+	+	
		40	+	+	+	+	+	+	+	+	+	0	0	+	+	+	+	+	+	+	+	+	+	
		60	+	+	+	+	+	+	+	+	+	-	-	+	+	+	+	+	+	+	+	+	+	
		80			+	+	+	+	+	-					+		+		+	+	+	+	+	
		100					+	+	+						+				+	+	+	+	+	

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## Chemical Resistance

Release Date: 2017-03-22

Condition	Concentration	Temperature [°C]	Material																							
			PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor			
1704 mineral water	water, mineral water	20	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		
		40	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
		60	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
		80																								
		100																								
1705 pure water  H2O	water, pure	20	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
		40	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
		60	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
		80			+	+	+	+	+	+	-					0	+			+	+	+	+	+	+	+
		100							+	+	+					+	-	+		+	+	+	+	+	+	+
1706	water, traces of butanol and phenol	20	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
		40	-				+	+	+	+					+	+	+	+	+	+	+	+	+	+	+	
		60					+	+	+	+					+	0	+	0	+	+	+	+	+	+	+	
		80					+	+	+	+	-				-		+			+	+	+	+	+	+	
		100					+	+	+	+										+	+	+	+	+	+	+
1708  H2	hydrogen	gf, tr	HK	20	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
		gf, tr	HK	40	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
		gf, tr	HK	60	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
		gf, tr	HK	80			0	0	+	+	+					+	+	+	+	+	+	+	+	+	+	+
		gf, tr	HK	100			-	-	+	+	+					+	+	+	+	+	+	+	+	+	+	+
		gf, tr	HK	120					+	+	+															

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Release Date: 2017-03-22

		Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor
<b>1709</b>	<b>hydrogen peroxide</b>				wä	10%	20	+	+	+		+	+	+		+				0		+	+	+	+
	hydrogen superoxide	wä	10%	40	+	+	+		+	+	+						-		+	+	+	+		+	
		wä	10%	60	0	+	+		+	+	+								+	0	+	+		+	
	HOOH	wä	10%	80					+	+	+									-	+	+		+	
	H2O2	wä	10%	100					+	+	+										+	+		+	
		wä	30%	20	+	+	+		+	+	+		+				-		+	+	+	+		+	
		wä	30%	40	0	0	0		+	+	+								+	0	+	+		+	
		wä	30%	60			0		+	+	+								0	-	+	+		+	
		wä	30%	80					+	+	+									-	+	+		+	
		wä	30%	100					+	+	+										+	+		+	
		wä	50%	20					+	+	+								+		+	+		+	
		wä	50%	40					+	+	+										+	+		+	
		wä	50%	60						+	+														
		wä	50%	80						+	+														
		wä	50%	100						+	+														
		wä	90%	20		-	-	-	+	+	+								0	0					
		wä	90%	40						+	+														
		wä	90%	60						+	+														
		wä	90%	80						+	+														
		wä	90%	100						+	+														
<b>1710</b>	<b>wine, red and white</b>			20	+	+	+	+	+	+	+		+	+	+	+	+	+	+	+					
				40		+	+	+	+	+	+		+	+	+	+									
				60		+	+	+	+	+	+			+	+	+									
				80					+	+	+														
				100					+	+	+														
				120					+	+	+														

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Release Date: 2017-03-22

Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor
			1711	brandy	20	+	+	+	+	+	+	+		-	+	+	+	+	+	+	+		
		40	+	+	+	+	+	+	+			+	+	+	+	+	+	+					
		60	+	+	+	+	+	+	+			+	+	+	+	+	+	+					
		80					+	+	+								0						
		100					+	+	+														
		120						+	+														
1712	wine vinegar	H 20	+	+	+	+	+	+	+	-	+	+	+	+	-	+	0	+					
		H 40	+	+	+	+	+	+	+		+	+	+	+		0	-	0					
		H 60	+	+	+	+	+	+	+		+	+	+	+		-	-						
		H 80			+	+	+	+	+		0	+	+	+									
		H 100			-	-	+	+	+			+	+	+									
1713	L(+)-tartaric acid	wä GL 20	+	+	+	+	+	+	+	+		+	+	+	+	+	+	+		+		+	+
	tartaric acid, naturally	wä GL 40	+	+	+	+	+	+	+	0		+	+	+	+	0	+	+		+		+	+
		wä GL 60	0	+	+	+	+	+	+	0		+	+	+	0	-	+	+		+		+	+
	HO2CCH(OH)CH(OH)CO2H	wä GL 80					+	+	+											+			
	C4H6O6	wä GL 100					+	+	+											+			
1715	xylene (mixture of isomers)	TR 20	-	-	0	0	+	+	+		-	+	+	+	-	-	+	-	+	+	+	+	+
	dimethylbenzene (mixture of isomers)	TR 40	-	-	-	-	+	+	+			+	+	+		0	-	+	+	+	+	+	+
		TR 60	-	-	-	-	0	+	+			+	+	+			-	-	+	+	+	+	+
	C6H4(CH3)2	TR 80		-	-	-	0	+	+			+	+	+			-	-	+	+	+	+	+
	C8H10	TR 100					0	+	+			+	+	+					+	+	+	+	+
		TR 120					-	+	+			+	+	+					+	+	+	+	+

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+ = resistant; 0 = conditionally resistant; - = non-resistant





## Chemical Resistance

Release Date: 2017-03-22

Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor
<b>1716</b> zinc carbonate basic  zinc hydroxide carbonate  2ZnCO3 · 3Zn(OH)2 C2H6O12Zn5	wä	GL	20	+	+	+	+	+	+	+					+	+	+	+				+	+
	wä	GL	40	+	+	+	+	+	+	+					0	+	+	+				+	+
	wä	GL	60	+	+	+		+	+	+					-	+	+	+				+	+
	wä	GL	80					+	+	+													
	wä	GL	100					+	+	+													
<b>1717</b> zinc chloride  ZnCl2 Cl2Zn	wä	10%	20	+	+	+	+	+	+		+				+	+	+	+		+		+	+
	wä	10%	40	+	+	+	+	+	+		+				0	+	+	+		+		+	+
	wä	10%	60	0	+	+	+	+	+						-	+	+	+		+		+	+
	wä	10%	80					+	+	+										+		+	+
	wä	10%	100					+	+	+										+			
	wä	50%	20	+	+	+	+	+	+	+		+			+	+	+	+		+		+	+
	wä	50%	40	+	+	+	+	+	+	+		+			0	+	+	+		+		+	+
	wä	50%	60	0		+	+	+	+	+					-	+	+	+		+		+	+
	wä	50%	80					+	+	+										+		+	+
	wä	50%	100					+	+	+										+			
	wä	GL	20	+	+	+	+	+	+	+		+			+	+	+	+		+		+	+
	wä	GL	40	+	+	+	+	+	+	+		+			0	+	+	+		+		+	+
	wä	GL	60	+	+	+	+	+	+	+					-	+	+	+		+		+	+
	wä	GL	80	-	0			+	+	+										+		+	+
	wä	GL	100					+	+	+										+			
<b>1718</b> zinc nitrate  Zn(NO3)2 N2O6Zn	wä	GL	20	+	+	+	+	+	+						+	+	+	+				+	+
	wä	GL	40	+	+	+	+	+	+						0	+	+	+				+	+
	wä	GL	60	0	+	+	+	+	+						-	+	+	+				+	+
	wä	GL	80			+	+	+	+	+												+	+
	wä	GL	100					+	+	+												+	+

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Release Date: 2017-03-22

Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSIC	Carbon	Al2O3	Al2O3 Sensor		
1719	zinc hydrogenphosphate	wä	GL	20		+	+	+	+	+	+				+	+	+	+	+			+	+		
		wä	GL	40		+	+	+	+	+	+					0	+	+	+	+			+	+	
		wä	GL	60		+	+	+	+	+	+					-	+	+	+	+			+	+	
		wä	GL	80					+	+	+												+	+	
		wä	GL	100					+	+	+												+	+	
ZnHPO4																									
HO4PZn																									
1720	zinc sulfate	wä	10%	20	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		
		wä	10%	40	+	+	+	+	+	+	+	+	+	+	+	0	+	+	+	+	+	+	+	+	
		wä	10%	60	0	+	+	+	+	+		+	+	+	+	-	+	+	+	+	+	+	+	+	
		wä	10%	80			+	+	+	+			+	+	+		+	+		+	+	+	+	+	
		wä	10%	100					+	+	+		+	+	+					+	+	+	+	+	
		wä	GL	20	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
		wä	GL	40	+	+	+	+	+	+	+	+	+	+	+	0	+	+	+	+	+	+	+	+	
		wä	GL	60	0	+	+	+	+	+		+	+	+	+	-	+	+	+	+	+	+	+	+	
		wä	GL	80			+	+	+	+			+	+	+		+	+		+	+	+	+	+	
wä	GL	100					+	+	+		+	+	+					+	+	+	+	+			
ZnSO4																									
O4SZn																									
1721	tin(II) chloride	wä	VL	20	+	+	+	+	+	+	+	0	0	+	+	+	+		+			+	+		
		wä	VL	40	+	+	+	+	+	+		+	-	-	+	0	0	+	+		+		+	+	
		wä	VL	60	0	+	+	+	+	+		+			+							+		+	+
		wä	VL	80					+	+	+				+							+		+	+
		wä	VL	100					+	+	+											+			
		wä	GL	20	+	+	+	+	+	+	+	+	-	-	+	+	+	+	+		+		+	+	
		wä	GL	40	0	+	+	+	+	+	+	+			+	0	0	+	+		+		+	+	
		wä	GL	60	0	+	+	+	+	+	+	+			+		-	+			+		+	+	
		wä	GL	80		0	0	0	+	+	+				+						+		+	+	
		wä	GL	100					+	+	+										+				
SnCl2																									
Cl2Sn																									

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## Chemical Resistance

Release Date: 2017-03-22

Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor
			1722	sugar sirup	H	+	+	+	+	+	+	+		+	+	+	+	+	+	+	+	+	+
		H	+	+	+	+	+	+	+		+	+	+	+	+	+	+	+	+	+	+	+	+
		H	0	+	+	+	+	+	+		+	+	+	+	+	+	+	+	+	+	+	+	+
		H			+	+	+	+	+			+	+	+	+	+	+	+	+	+	+	+	+
		H					+	+	+			+	+	+			+		+	+	+	+	+
1723	mixed acid: HNO3 12%, HF 5%	wä				-	+	+	+	-		-	-	-					+	+		-	-
		wä					+	+	+										+	+			
		wä					+	+	+											+			
	HNO3 12%, HF 5%, H2O 83%	wä					+	+	+								-			+			
		wä						+	+											+			
1724	mixed acid: HNO3 20%, HF 5%	wä				-	+	+	+	-		-	-	-					+	+		-	-
		wä					+	+	+										+	+			
		wä					+	+	+											+			
	HNO3 20%, HF 5%, H2O 75%	wä					+	+	+								-			+			
		wä						+	+											+			
1739	2-butanol	TR						+	+			+	+	+						+		+	+
	sec-butyl alcohol	TR						+	+			+	+	+						+		+	+
		TR						+	+			+	+	+						+		+	+
	CH3CH2CH(OH)CH3	TR						+	+			+	+	+						+		+	+
	C4H10O	TR						+	+			+	+	+						+		+	+

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Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSIC	Carbon	Al2O3	Al2O3 Sensor	
1745	2-pentanol	TR	20					+	+			+	+	+						+		+	+	
		TR	40					+	+			+	+	+						+		+	+	
		TR	60					+	+			+	+	+						+		+	+	
		TR	80					+	+			+	+	+						+		+	+	
		TR	100					+	+			+	+	+						+		+	+	
		TR	120					+	+			+	+	+						+		+	+	
1763	ammonium iron(III) sulfate	wä	10%	20	+	+	+	+	+	+	+			+	+	+	+	+	+	+	+	+	+	
		wä	10%	40	+	+	+	+	+	+	+	+			+	+	+	+	+	+	+	+	+	+
		wä	10%	60	0	+	+	+	+	+					+		+	+	+	+	+	+	+	+
		wä	10%	80			+	+	+	+					+		+	+		+	+		+	+
		wä	10%	100				+	+	+					+					+	+		+	+
		wä	GL	20	+	+	+	+	+	+	+	+			+	+	+	+	+	+	+	+	+	+
		wä	GL	40	+	+	+	+	+	+	+	+			+	+	+	+	+	+	+	+	+	+
		wä	GL	60	0	+	+	+	+	+					+		+	+	+	+	+	+	+	+
		wä	GL	80			+	+	+	+					+		+	+		+	+		+	+
		wä	GL	100				+	+	+					+					+	+		+	+
1955	N,N-dimethylacetamide	TR	20	-	-	-	-	+	+	-	-	+	+	+					+		+	+		
		TR	40					+	+			+	+	+					+		+	+		
		TR	60					+	+			+	+	+					+		+	+		
		TR	80					+	+			+	+	+					+		+	+		
		TR	100					+	+			+	+	+					+		+	+		
		TR	120					+	+			+	+	+					+		+	+		

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	Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSiC	Carbon	Al2O3	Al2O3 Sensor
<b>2143</b> ethylene glycol monobutyl ether 2-butoxyethanol butyl Cellosolve CH3(CH2)3OCH2CH2OH C6H14O2	tr	TR	20	-					+	+			+	+	+								+	+
	tr	TR	40						+	+			+	+	+								+	+
	tr	TR	60						+	+			+	+	+								+	+
	tr	TR	80						+	+			+	+	+								+	+
	tr	TR	100						+	+			+	+	+								+	+
<b>2185</b> n-decane CH3(CH2)8CH3 C10H22		TR	20					+	+	+			+	+	+		-	+		+	+		+	+
		TR	40					+	+	+			+	+	+		+			+	+		+	+
		TR	60					+	+	+			+	+	+					+	+		+	+
		TR	80					+	+	+			+	+	+					+	+		+	+
		TR	100					+	+	+			+	+	+					+	+		+	+
<b>2218</b> pivaloyl chloride trimethylacetyl chloride (CH3)3CCOCl C5H9ClO		TR	20						+	+												+	+	+
		TR	40						+	+												+	+	+
		TR	60						+	+												+	+	+
		TR	80						+	+												+	+	+
		TR	100						+	+												+	+	+
<b>2260</b> ethylene glycol monomethyl ether 2-methoxyethanol methyl Cellosolve CH3OCH2CH2OH C3H8O2		TR	20						+	+		-	+	+	+		+	-		+	+		+	+
		TR	40						+	+			+	+	+		+			+	+		+	+
		TR	60						+	+			+	+	+					+	+		+	+
		TR	80						+	+			+	+	+						+	+		+
		TR	100						+	+			+	+	+						+	+		+

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Condition	Concentration	Temperature [°C]	PVC-U	PE	PP	PP-GF30	PVDF	PTFE	FEP, PFA	PA12	PSU	V2A 1,4301	V4A 1,4571	Hast-C 2,4537	NBR	EPDM	FKM = FPM	CSM	FFKM	SSIC	Carbon	Al2O3	Al2O3 Sensor	
2776	argon	gf	HK	20	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+					
		gf	HK	40	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+				
		gf	HK	60	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+				
		gf	HK	80			+	+	+	+		+	+	+	+	+	+	+	+	+				
		gf	HK	100				+	+	+		+	+	+	+		+	+		+				
		gf	HK	120				+	+	+			+	+	+			+		+				
		Ar																						

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