

Chemical Resistance Chart SITRANS F M

A = Excellent
B = Good, minor effect

C = Conditional, not recommended
for continuous use

X = Not recommended
– = No data available

Chemicals A – Z				Plastic and rubbers									Ceramics and resins				Metals										
Agent	Chemical formula	Concentration (%)	Electrical conductivity (μS/cm) @ 25 °C	Butyl	EPDM	Ebonite	FKM-FPM	Linatex	NBR	Neoprene	PFA	PTFE	PVDF	Aluminium oxide	Zirconium oxide	Ceramic coated	Novolac	Graphite	AISI 316L	Hastelloy C-22	Hastelloy C-276	Platinum	Titanium	Tantalum	Gold	Tungsten carbide	
Acetaldehyde	CH ₃ CHO	40	TBD	A80	A60 B80	–	B40 C60 X80	–	X	X	A150	A150	X	A23	A23	–	–	A	A	A	A	–	A	–	–	–	–
Acetaldehyde	CH ₃ CHO	100	<5	–	A40 B60	C	C40 X60	C23	X	C	A150	A150	X	–	–	–	–	A	A93	A93	A60	A200	A150	B23	–	–	A23
Acetamide	C ₂ H ₅ NO	100	TBD	A23	A93	–	A40	X	A40	A80	A120	A120	A25	–	–	–	–	A	B171	–	B	–	–	–	–	–	
Acetic acid	CH ₃ COOH	5	>100	A23 B100	A93	–	C23	B23	B23	A40	A150	A200	–	A120	A120	–	A93	A	A80	A150	A150	A100	A100	A80	–	–	
Acetic acid	CH ₃ COOH	10	>100	A23	A60	A30	C23 X80	B23	B23	A30	A200	A200	A105	A120	A120	–	A93	A	A200	A150	A150	A100	A100	A120	–	–	
Acetic acid	CH ₃ COOH	20	>100	A23	A60	–	C23 X80	B23	C23	A30	A200	A200	A60	–	–	–	A93	A	A200	A150	A150	A100	A100	A120	–	–	
Acetic acid	CH ₃ COOH	30	>100	A23	A23	B30	C	B23	B23	C23	A200	A200	A60	–	–	–	–	A	A93 B150	–	A132	A	A100	A120	–	–	
Acetic acid	CH ₃ COOH	50	>100	A23	A23	A40	C23 X40	X	C23	C23	A200	A200	A38	A120	A120	–	–	A	A23 B100	A100	A80	A100	A127	A120	–	C23	
Acetic acid	CH ₃ COOH	80	>100	A23	A23	–	C23	X	X	C23	A200	A200	A40	A120	A120	–	–	A	B80 C93	A93	A90	A100	A100	A120	–	–	
Acetic acid	CH ₃ COOH	100	<5	B23	X	A23	X	X	X	X	A200	A200	A40	A120	A120	–	–	A	B80 C93	A93	A120	A118	A100	A120	A	C23	
Acetic anhydride	(CH ₃ CO) ₂ O	100	<5	B23	C23	B	X	B23	X	B23	A200	A200	X	A120	A120	–	–	A23	B120	A120	A120	A100	B120	A23	–	A23	
Acetone	CH ₃ COCH ₃	10 ppm	TBD	–	A60	–	A23	–	–	–	–	–	A60 B120	–	–	–	B93	A	A200	–	–	–	–	–	–	–	
Acetone	CH ₃ COCH ₃	100	<5	A60	A23 B40	A23	X	B23	X	X	A200	A200	X	A100	A100	–	B93	A	A200	A100	A54 B93	A56	A80	A120	–	A23	
Acetonitrile	C ₂ H ₃ N	100	>5	B23	A70	–	X	X	X	X	A93	A200	A50 X80	–	–	–	–	A	B60	A	A100	–	A	B23	–	–	
Acetyl chloride	CH ₃ COCl	100	<5	X	X	X	B	X	X	X	A200	A200	A30	–	–	–	–	A	B60	A37	A100	A100	A100	B23	–	–	
Acrylic acid	C ₃ H ₄ O ₂	100	TBD	X	X	–	X	X	X	X	A70	A100	A40	–	–	–	–	A	A50	A53	C98	–	–	–	–	–	
Acrylonitrile	C ₃ H _{3.5} N	100	TBD	X	X	B30	X	C23	X	A60	A200	A200	A25	–	–	–	–	A	A80	A100	A100	A100	A93	B93	–	A23	
Allyl alcohol	C ₃ H ₅ O	100	>5	A23	B150	X	A80	A23	A23 B60	A23	A200	A200	A50	–	–	–	–	A	A200	A100	A100	A100	B80	A100	–	A23	
Allyl chloride	C ₃ H ₅ Cl	100	TBD	X	X	–	B40	X	X	X	A200	A200	A100	–	–	–	–	A	A23 B100	A26	–	A100	A82	A80	–	–	
Alum	K ₂ Al ₂ (SO ₄) ₂	10	>100	A	A95	A95	–	–	–	A23	A175	A175	–	–	–	–	–	A	A23 B100	–	B80	A80	A100	A80	–	–	
Alum	K ₂ Al ₂ (SO ₄) ₂	sat	>100	A87	A60 B93	A95	A90	A23	A60 B93	A23	A200	A200	A100	–	–	–	–	A	B100	A30	B65	A80	A100	A80	–	–	
Aluminium chloride	AlCl ₃	10	>100	A100	A80	A100	A100	A23	–	A100	A120	A120	–	A100	A100	–	A93	A	C23	A93	A80	A23	A93	A40	–	–	
Aluminium chloride	AlCl ₃	25	>100	A100	A95	A70	A100	A23	–	A60	A175	A175	–	A100	A100	–	A93	A	X	A93	A80	A23	X	A93	–	–	
Aluminium chloride	AlCl ₃	40	>100	–	–	–	–	–	–	–	–	–	A140	–	–	–	A93	A	X	A93	A80	A23	X	A93	–	–	
Aluminium chloride	AlCl ₃	sat	>100	A65	A80	A23	A100	A60	A60	A80	A120	A120	A60	A100	A100	–	A93	A	X	A93	A80	A23	X	C23	–	X	
Aluminium fluoride	AlF ₃	sat	TBD	A60	A80	A95	A100	A60	A80	A80	A120	A120	A135	–	–	–	–	A	C23	A	X	A100 (20%)	X	X	–	–	
Aluminium hydroxide	Al(OH) ₃	sat	TBD	A30	A60	A100	A80	A23	A60	A80	A120	A120	A120	–	–	–	A93	–	A120	–	B23	A100 (10%)	B87	A23	–	–	
Aluminium nitrate	Al(NO ₃) ₃	sat	TBD	A23	A80	A80	A100	A60	A60	A80	A175	A175	A120	A	A	–	A93	C	B80	A	B23	A23	A98	B23	–	–	
Aluminium sulfate	Al ₂ (SO ₄) ₃	20	TBD	A100	–	A70	A100	A60	–	A60	A120	A120	–	A100	A100	–	A93	A	A100	–	A55	–	A93	–	A100 (10%)	–	
Aluminium sulfate	Al ₂ (SO ₄) ₃	sat	<5 (50%)	A87	A60 B123	A60	A100	A23	A60	A70	A175	A175	A135	A120 (57%)	A120 (57%)	–	A93	A	A23	A40	B97	A100	A93	A120	–	–	

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Agent	Chemical formula	Concentration (%)	Electrical conductivity (μS/cm) @ 25 °C	Butyl	EPDM	Ebonite	FKM-FPM	Linatex	NBR	Neoprene	PFA	PTFE	PVDF	Aluminium oxide	Zirconium oxide	Ceramic coated	Novolac	Graphite	AlSi 316L	Hastelloy C-22	Hastelloy C-276	Platinum	Titanium	Tantalum	Gold	Tungsten carbide
Aluminum Chlorohydrate	AlnCl(3n-m)(OH)m		TBD	–	X	X	–	X	–	X	A175	A175	–	–	–	–	–	–	X	–	B	A	X	A	–	–
Ammonia gas, wet saturated	NH ₃	sat	TBD	–	–	A40	–	–	–	A70	–	–	X	–	–	–	–	A	–	–	–	–	–	–	–	–
Ammonium Bicarbonate	NH ₄ HCO ₃	sat	TBD	A70	A60	A60	A60	A23	A60	B93	A200	A200	A100	–	–	–	–	–	A80	–	B26	A100	B93	A120	–	–
Ammonium bifluoride	F ₂ H ₂ N	sat	>100	X	A50	A60	A50	X	B30	X	A120	A120	A65	–	–	–	–	A	X	–	B60	A23	X	X	–	–
Ammonium carbonate	(NH ₄) ₂ CO ₃	sat	TBD	A90	A80	A90	A100	A60	X	A80	A120	A120	A135	A120	A120	–	A93	A	B120	A120	B149	A23	A80	A80	–	B23
Ammonium chloride	NH ₄ Cl	25	>100	A90	–	A100	A100	–	–	A60	A120	A120	A135	A120	A120	–	A93	A	B100	A80	A80	A100	A100	A100	–	–
Ammonium chloride	NH ₄ Cl	sat	>100	A100	A80	A100	A100	A60	A80	A80	A120	A120	A120	A120	A120	–	A93	A	X	A23	B120	A100	A100	A120	–	B23
Ammonium fluoride	NH ₄ F	10	>100	A80	–	A100	A60	B23	A40	A23	A120	A120	–	–	–	–	–	A	B30	–	A80	A23	B31	X	–	–
Ammonium fluoride	NH ₄ F	20	>100	A80	A60	A100	A60	–	A40	A23	A120	A120	A65	–	–	–	–	A	B23	–	A80	A23	B23	X	–	–
Ammonium hydroxide	NH ₄ OH	10	>100	A90	A100	A60	B23	X	A23	A93	A200	A200	–	–	–	–	A20	A	A23 B100	A150	A23 B100	A100	A30	A30 X	–	–
Ammonium hydroxide	NH ₄ OH	25	>100	A60	A75	A40	B23	X	A60	B80	A120	A120	A105	A60	A60	A 23	A20	A	A25 B100	A150	A 23	A 23	A30	A30 X	–	B23
Ammonium hydroxide	NH ₄ OH	sat	>100	A80	A75	X	B23	X	X	A80	A180	A200	A105	A120	A120	–	A93	A	A100	–	–	A100	–	–	–	B23
Ammonium nitrate	NH ₄ NO ₃	50	>100	A100	–	A80	A80	–	–	A60	A180	A200	–	A120	A120	–	A93	C	A100	A93	–	A100	A93	A93	–	B23
Ammonium nitrate	NH ₄ NO ₃	sat	>100	A80	A80	A60	A80	B23	A80	A80	A180	A200	A135	–	–	–	A93	C	A100	A93	–	A120	B	A80	–	–
Ammonium sulfate	(NH ₄) ₂ SO ₄	sat	>100	A100	A80	A100	A80	A60	A80	A80	A150	A200	A135	A120	A120	–	A93	A	A100	X	A100	A150	A100	A149	–	B23
Ammonium sulfide	(NH ₄) ₂ S	sat	TBD	A23	A60	–	–	A23	A60	A60	A150	A150	A50	–	–	–	–	A	B100	A70	A23 (10%)	–	–	B23	–	–
Ammonium thiocyanate	NH ₄ SCN	sat	>100	A23	A80	–	–	A23	A60	A80	A120	A120	A135	–	–	–	–	–	B23	A	B97	A100	A100	B23	–	–
Amyl acetate	C ₇ H ₁₄ O ₂	100	TBD	X	B23	–	X	X	X	X	A120	A120	A50	–	–	–	–	A	A120	A	A200	A100	A100	B120	–	A23
Amyl alcohol	C ₅ H ₁₁ OH	100	TBD	A23	A80	A60	A40	B23	A60	A60	A150	A200	A135	–	–	–	A93	A	A100	A	B93	A100	B100	B120	–	–
Aniline	C ₆ H ₅ NH ₂	100	<5	A60	A23	X	B60	X	X	X	A120	A200	A40	A180	A180	–	–	A	A250	A120	B293	A180	A93	B93	A184	A23
Aqua regia	HCl:HNO ₃		TBD	C	X	X	B23	X	X	C	A120	A200	A25	A23	A23	–	–	X	X	X	X	X	A23 C60	A60	X	–
Arsenic acid	H ₃ AsO ₃	sat	TBD	A23	A40	A	A60	A60	A40	A60	A120	A200	A135	–	–	–	–	A	B100	X	B93	A93	A23	B93	A23	–
Asphalt		100	TBD	X	X	–	–	X	X	X	A90	A200	A120	–	–	–	–	A	A23	–	–	–	A200	–	–	–
ASTM Oil No. 1			<5	X	X	A60	–	X	A23	X	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
ASTM Oil No. 2			<5	X	X	A60	–	X	A23	X	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
ASTM Oil No. 3			<5	X	X	A60	–	X	A23	X	–	–	zx	–	–	–	–	–	–	–	–	–	–	–	–	–
Barium carbonate	BaCO ₃	sat	>5	A23	A80	A80	A100	A80	A60	A60	A200	A200	A140	–	–	–	A93	–	B23	A	B293	A23	A23	B23	–	B23
Barium chloride	BaCl ₂	sat	>100	A80	A80	A90	A100	A23	A60	A80	A120	A200	A140	A	A	–	A93	A	B80	A	A97	A100	A23	A93 (25%)	–	–
Barium hydroxide	Ba(OH) ₂	sat	>100	A80	A80	A80	A100	A60	A60	A80	A180	A200	A135	A120	A120	–	A93	A	B120	A23	B93	A93	A80	A120	–	B23
Barium sulfate	BaSO ₄	sat	<5	A23	A80	–	A100	A80	A60	A60	A165	A200	A140	–	–	–	A93	A	B93	A93	B23	A60	A93	B93	–	B23
Beer		100	>100	A30	A80	A23	A80	A23	A23	A23	A120	A200	A110	A	A	–	–	A	A150	A37	A32	A23	B23	A38	–	A23
Benzaldehyde	C ₇ H ₆ O	100	<5	A30	B23	X	C	X	X	X	A150	A200	A20	–	–	–	A50	A	B200	A	A93	A100	B23	B93	–	A23
Benzene	C ₆ H ₆	100	<5	X	X	X	A60	X	X	X	A100	A120	A23 B80	A23	A23	–	A93	A	B120	–	B93	A93	A93	A100	A93	A23
Benzene sulfonic acid	C ₆ H ₄ SO ₃ H	sat	TBD	–	X	–	A100	X	X	B30	A100	A200	A20	A70	A70	–	–	A	B80	–	B93	A93	X	B93	A93	–
Benzoic acid	C ₆ H ₅ COOH	sat	<5	A30	X	–	A80	C30	X	B30	A200	A200	A110	A23	A23	–	–	A	B93	A23	A93	A93	A93	A93	A93	B23

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Benzoyl chloride	C ₇ H ₅ ClO	100	TBD	–	X	–	A100	X	X	X	A120	A200	A75	–	–	–	–	–	A23	A	B93	A93	–	A93	A93	–	–	
Benzyl alcohol	C ₇ H ₉ O	100	<5	B60	B23	X	A60	X	X	X	A150	A200	A120	–	–	–	–	A	A93	A	B93	A93	B93	B93	A93	A23	A23	
Benzyl chloride	C ₇ H ₇ Cl	100	TBD	X	X	–	A90	X	X	X	A150	A150	A140	–	–	–	–	A	B93	–	A180	A180	–	B100	A180	–	–	
Black liquor		100	>100	A65	A100	A80	A80	A23	A60	A30	A200	A200	A80	–	–	–	–	A	B93	A90	C120	A	X	X	–	–	–	
Bleach, 12,5% active chlorine			TBD	–	–	A65	A100	X	X	B30	A160	A200	A135	–	–	–	–	A	X	–	A52	–	A120	A	–	–	–	
Borax	Na ₂ B ₄ O ₇ ·10H ₂ O	sat	TBD	A30	A60	A80	A80	B23	B40	B90	A120	A200	A135	–	–	–	A93	A	A120	–	A43 G97	A23	B23	X	–	–	–	
Boric acid	H ₃ BO ₃	sat	TBD	A90	A100	A80	A100	A23	A60	A80	A150	A200	A135	A120	A120	–	A93	A	B120	A23	A120	A150	A80	A120	A150 (10%)	B23	B23	
Bromine	Br ₂	dry	<5	X	X	–	–	X	X	X	–	–	A60	A120	A120	–	–	X	X	A66	A50	X	X	A	X	X	–	–
Bromine solution, aqueous		sat	TBD	X	X	–	A100	X	X	X	A120	A120	A100	–	–	–	–	X	X	–	A97	–	A32	A32	–	–	–	
Butadiene	C ₄ H ₆	100	TBD	B60	X	–	A100	X	B23	A23	A120	A120	A120	–	–	–	–	A	B100	A120	A100	A100	A100	B23	A100	A23	A23	
Butyl acetate	C ₈ H ₁₆ O ₂	100	TBD	X	C23	X	X	X	X	X	A120	A120	A25	A23	A23	–	–	A	A120	A120	B150	A93	A93	B23	A93	A23	A23	
Butyl alcohol / Butanol	C ₄ H ₉ OH	100	<5	A60	B100	A70	A100	A60	B60	A80	A200	A200	A110	A120	A120	–	A93	A	A100	A120	A100	A117	A120	A100	A100	–	–	
Butyric acid	C ₄ H ₇ COOH	100	<5	X	B23	X	A40	X	X	X	A200	A200	A110	A160	A160	–	–	A	B93	A23	A93	A93	A93	A23	A93	B23	B23	
Calcium bisulfite	Ca(HSO ₃) ₂	sat	TBD	A30	X	A70	A100	C23	B90	A40	A200	A200	A95	A23	A23	–	–	A	B120	–	B23	A150	A93	A23	–	–	–	
Calcium carbonate	CaCO ₃	sat	>5	A60	A60	A70	A100	A60	A40	A60	A200	A200	A140	–	–	–	A93	–	B97	A	B93	A93	A93	A100	A93	–	–	
Calcium chlorate	Ca(ClO ₃) ₂	sat	TBD	A80	A60	–	A100	A60	A23	A40	A200	A200	A140	–	–	–	–	A60	B60	B	B93	A93	B60	B93	A93	–	–	
Calcium chloride	CaCl ₂	sat	>100	A80	A80	A70	A100	A60	A40	A60	A200	A200	A140	–	–	–	A93	A	B97	A200	A93	A100	A93	A100	A100	–	–	
Calcium disulfide	CaS ₂		TBD	C100	–	–	A100	A23	–	–	–	–	–	A120	A120	–	–	–	–	–	–	–	–	–	–	–	–	–
Calcium hydroxide	Ca(OH) ₂	sat	TBD	A80	A100	A80	A100	A80	A60	A100	A200	A200	A135	A120	A120	–	A93	A	B80	A100	A100 (50%)	A93	A110	A120	A93	B23	B23	
Calcium hypochlorite	Ca(ClO) ₂	sat	TBD	X	B40	B80	A80	C23	C23	A23	A200	A200	A95	A40	A40	–	–	A30 @ 30%	X	A23	A38 B93 (50%)	A93	A100	A93	A93	C23	C23	
Calcium nitrate	Ca(NO ₃) ₂	sat	>100	A80	A80	A80	A100	A60	A80	A80	A200	A200	A135	A120	A120	–	A93	X	B120	A23	B93	A100	B97	B23	A100	B23	B23	
Calcium phosphate	Ca ₃ (PO ₄) ₂	sat	TBD	–	A	A	A	A	A	A	A200	A200	A140	A	A	–	–	A	–	A23	A23	A23	A23	A23	–	–	–	
Calcium sulfate	CaSO ₄	sat	>100	A40	A100	A100	A100	A80	A60	A60	A200	A200	A140	A120	A120	–	A93	A	B97	A23	B120	A93	A93	B97	A93	B23	B23	
Carbon monoxide		100	TBD	A80	A60	A80	–	B23	A60	A60	A200	A200	A140	–	–	–	–	A	A250	–	A250	A250	A250	A250	A250	–	–	
Carbon tetrachloride	CCl ₄	100	<5	X	X	X	A80	X	X	X	A120	A120	A135	A23	A23	–	A93	A	A93	A60	A60	A76	A93	A120	–	A23	A23	
Carbonic acid	H ₂ CO ₃	sat	TBD	A80	A100	A100	A80	A80	A60	A60	A180	A200	A135	A23	A23	–	–	–	B176	A120	A26	A120	A100	B149	–	–	–	
Castor oil		100	<5	B71	B60	A60	A80	A60	A60	A60	A200	A200	A140	–	–	–	–	A	B87	A	A26	–	–	–	–	A23	A23	
Chloride, aqueous solution	Cl ₂	0,04	>100	C	B23	A90	–	B23	X	A30	A200	A200	–	–	–	–	–	A30	–	–	–	–	–	–	–	–	–	
Chloride, aqueous solution	Cl ₂	1	>100	C	–	B	–	B23	X	A30	A200	A200	–	–	–	–	–	A30	–	–	–	–	–	–	–	–	–	
Chloride, aqueous solution		sat	>100	X	B23	A60	A80	X	X	X	A120	A200	A110	–	–	–	–	X	X	–	E93	–	A97	B149	–	–	–	
Chlorine dioxide	ClO ₂	15	TBD	X	X	–	A60	X	X	X	A200	A200	A65	A	A	–	–	X	X	–	B23	–	A80	A149	X	–	–	
Chloroacetic acid	CH ₂ ClCOOH	sat	<5	B65	–	–	–	X	X	X	A200	A200	X	A120	A120	–	–	–	X	A	B93	A93	B93	A200	A93	X	X	
Chlorobenzene	C ₆ H ₅ Cl	100	TBD	X	X	X	A100	X	X	X	A200	A200	A75	A23	A23	–	–	A	X	–	B93	A93	B80	B120	A93	A23	A23	
Chloroform	CHCl ₃	100	<5	X	X	X	A100	X	X	X	A200	A200	A50	–	–	–	–	A	A23	A21	B93	A93	A93	A93	A93	A23	A23	
Chlorosulfonic acid	SO ₂ (OH)Cl	100	TBD	X	X	X	–	X	X	X	A200	A200	X	A150	A150	–	–	A	X	A85	A93	A150	A93	B93	A150	X	X	
Chromic acid	H ₂ CrO ₄	10	>100	A35	A23	C23	A100	X	A60	A23	A200	A200	A80	A120	A120	–	–	X	A38	A	A23	A93	A97	B149	A93	X	X	
Chromic acid	H ₂ CrO ₄	50	>100	X	X	X	A100	X	A60	A23	A200	A200	A50	A120	A120	–	–	X	B71	B	B97	A93	A80	A120	A93	X	X	
Citric acid	C ₆ H ₈ O ₇	sat	>100	A90	A100	A80	A100	A50	A80	A93	A200	A200	A135	A120	A120	–	A93 up to 25%	A	B100	–	A93	A93	A80	A93	A100	C23	C23	

Chemical Resistance Chart – Chemicals B-C

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Stainless Steel

Hastelloy®

Titanium

Tantalum

Platinum

Overview

Chemical Resistance Chart SITRANS F M

A = Excellent
B = Good, minor effect

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for continuous use

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Chemicals A - Z				Plastic and rubbers										Ceramics and resins				Metals									
Agent	Chemical formula	Concentration (%)	Electrical conductivity (μS/cm) @ 25 °C	Butyl	EPDM	Ebonite	FKM-FPM	Linatex	NBR	Neoprene	PFA	PTFE	PVDF	Aluminium oxide	Zirconium oxide	Ceramic coated	Novolac	Graphite	AlSi 316L	Hastelloy C-22	Hastelloy C-276	Platinum	Titanium	Tantalum	Gold	Tungsten carbide	
Copper acetate	<chem>Cu(CH3COO)2</chem>	sat	TBD	-	A60	A80	-	A23	A23	B23	A140	A200	A120	-	-	-	-	A	A23	A23	B38	A100	-	A149	A100	-	-
Copper chloride	<chem>CuCl2</chem>	sat	>100	A100	A75	A90	A100	A60	A80	A60	A200	A200	A135	A120	A120	-	-	A	X	B23	C23	X	A80	A149	A100	-	-
Copper cyanide	<chem>CuCN</chem>	sat	TBD	A	A80	A80	A100	A60	A80	A60	A200	A200	A80	-	-	-	-	A	B97	A100	A65	A23	A23	B149	-	-	
Copper difluoride	<chem>CuF2</chem>	sat	TBD	-	A60	-	A100	-	A23	A60	A120	A200	A135	-	-	-	-	A	X	-	X	A23	X	X	-	-	
Copper nitrate	<chem>Cu(NO3)2</chem>	sat	>100	C23	A100	A80	A100	B40	A70	A80	A200	A200	A135	-	-	-	-	A	B93	-	B26	A23	A23	A149	-	X	
Copper sulfate	<chem>CuSO4</chem>	sat	>100	C80	A90	A100	A100	B60	A80	A60	A200	A200	A120	A120	A120	-	A93	A	C23	A100	A93	A150	A100	A120	-	C23	
Crude oil		100	<5	X	X	-	A100	X	A80	X	A120	A200	A140	-	-	-	A93	A	A97	A	E32	-	A23	A23	-	B23	
Cyclohexane	<chem>C6H12</chem>	100	TBD	X	X	-	A80	X	A80	X	A200	A200	A120	-	-	-	A93	A	B93	X	B93	A93	A120	B23	A93	A23	
Cyclohexanol	<chem>C6H12O</chem>	100	TBD	-	X	-	A80	X	X	X	A200	A200	A65	-	-	-	-	A	B93	-	B26	A93	B23	B23	A93	-	
Cyclohexanone	<chem>C6H10O</chem>	100	TBD	X	X	X	-	X	X	X	A200	A200	B80	-	-	A23	-	A	B82	-	B82	-	B23	B23	-	A23	
Detergents			TBD	A23	A100	A90	A100	B23	A80	A70	A200	A200	A120	-	-	-	A93	-	B100	-	A49	-	A60	A75	-	-	
Dibutyl Phtalate	<chem>C14H22O4</chem>	100	TBD	B60	A23	-	X	X	X	X	A200	A200	X	-	-	-	-	A	A93	-	B93	A200	B93	B93	A200	A23	
Dichlorobenzene	<chem>C6H4Cl2</chem>	100	TBD	X	X	-	A80	X	X	X	A200	A200	A60	-	-	-	-	-	B42	A	A93	A93	X	A93	A93	-	
Dichloroethane	<chem>C2H4Cl2</chem>		TBD	X	X	X	A100	X	X	X	A200	A200	-	A50	A50	-	-	A	B200	-	B110	A100	B80	A93	-	-	
Dichloroethylene	<chem>C2H2Cl2</chem>	100	TBD	-	X	X	A100	X	X	X	A200	A200	A100	A60	A60	-	-	-	B93	-	B93	A93	B80	B93	A93	-	
Diesel fuel		100	TBD	-	X	-	A100	X	A40	A23	A200	A120	A140	-	-	-	A93	A	A23	A120	B93	-	B80	A120	-	-	
Diethyl ether	<chem>(C2H5)2O</chem>	100	TBD	X	X	-	X	X	B23	X	A200	A200	A30	-	-	-	-	A	B97	-	B93	A93	A93	A93	A93	-	
Diethylamine	<chem>C4H11N</chem>	sat	<5	A100	A23	-	X	A23	X	A23	A120	A120	A25	-	-	-	-	A	A93	-	A40	A93	A93	A93	A93	-	
Dimethyl phtalate	<chem>C10H10O4</chem>	100	TBD	B23	B23	-	B100	X	X	X	A200	A200	A25	-	-	-	-	A	A38	-	-	-	-	-	-	-	
Dioctyl phtalate	<chem>C24H38O4</chem>	100	TBD	A30	A23	-	A30	X	X	X	A200	A200	A25	-	-	-	-	A	B38	-	-	A93	A93	A93	A93	-	
Dioxane	<chem>O2(CH2)4</chem>	100	TBD	B23	B70	-	X	X	X	X	A200	A200	X	A	A	-	-	A	B97	A	B93	A93	B93	B93	A93	A23	
Epichlorhydrin	<chem>C2H4ClO</chem>	100	<5	X	X	-	X	X	X	X	A200	A200	A40	-	-	-	-	A	B93	A60	A23	A93	A60	B23	A93	-	
Ether	<chem>(C6H13)2O</chem>		TBD	X	X	-	X	X	X	X	A180	A200	-	A23	A23	-	-	A	A93	X	B80	A35	B23	B93	A35	A23	
Ethyl acrylate	<chem>C6H10O2</chem>	100	TBD	X	A30	-	X	X	X	X	A180	A200	A25	-	-	-	-	A	B82	-	A82	A93	B23	B23	A93	-	
Ethylacetate	<chem>CH3COOC2H5</chem>	100	<5	A38	A23	A23	X	X	X	X	A180	A200	X	A23	A23	-	-	A	A149	A65	B149	A200	A93	B93	A200	A23	
Ethylalcohol, Ethanol	<chem>C2H5OH</chem>	100	<5	A90	A100	A70	A80	A23	A80	A70	A200	A200	A140	A120	A120	-	A93	A	A93	B97	A93	A93	A93	A93	A93	-	
Ethylchloride	<chem>C2H5Cl</chem>	100	<5	X	A60	X	A60	X	A93	X	A200	A200	A140	A23	A23	-	-	A	A93	-	B97	A120	A93	A93	-	C23	
Ethylene glycol	<chem>C2H4O2</chem>	100	TBD	A85	A120	A70	A100	A60	A93	A60	A200	A200	A140	-	-	-	A93	A	A93	A200	A200	A93	A93	A32	A93	A23	
Ethylene oxide	<chem>C2H4O</chem>	100	TBD	X	X	-	X	X	X	X	A200	A200	A95	-	-	-	-	A	A40 B150	A31	A23	A93	A31	A32	A93	-	
Ethylenediamine	<chem>C2H8N2</chem>	100	TBD	A23	B120	-	A65	A26	A26	B30	A120	A120	A105	-	-	-	-	A	A93	X	X	A93	A40	B23	A93	-	
Fatty acids		100	TBD	C23	X	A30	A80	X	A80	23	A200	A200	A140	-	-	-	-	A	A200	A200	A200	A120	A80	A200	A200	B23	
Ferric chloride	<chem>FeCl3</chem>	sat	>100	A90	A90	A100	A80	A60	A60	A40	A200	A200	A140	A120	A120	-	A93 up to 50%	A	X	X	B38	B23	A93	A93	-	-	
Ferric nitrate	<chem>Fe(NO3)3</chem>	sat	TBD	A90	A80	A70	A100	A60	A60	A60	A200	A200	A135	A120	A120	-	A93	C	B93 (10%)	A23	B65	A23	A120	A93	-	-	
Ferric sulfate	<chem>Fe2(SO4)3</chem>	sat	TBD	A65	A80	A70	A80	A60	A60	A80	A200	A200	A140	A65	A65	-	A93	A	A93 (10%)	-	B23	A23	A100	A80	-	X	
Ferrous chloride	<chem>FeCl2</chem>	sat	TBD	A100	A80	A90	A90	A60	A80	A30	A200	A200	A140	A100	A100	-	-	A	X	X	B138	A100	A100	A93	-	X	
Ferrous nitrate	<chem>Fe(NO3)2</chem>	sat	TBD	A90	A80	A90	A100	A60	A60	A80	A200	A200	A135	-	-	-	A93	A	B23	-	B23	A23	A23	A23	-	-	
Ferrous Sulfate	<chem>FeSO4.7H2O</chem>	sat	>100	A90	A80	A70	A80	A60	A60	A70	A200	A200	A140	A120	A120	-	A93	A	B23	A120	B93 (50%)	A23	A32	A71	-	X	
Formaldehyde	<chem>HCHO</chem>	37	>100 @38°C	A60	A80	A40	-	B23	X	A60	A120	A200	A50	A100	A100	-	A93 up to 100%	A	A93	B100	B93	A250	A93	A93	-	C23	
Formic acid	<chem>HCOOH</chem>	conc	>100	A100	A100	B23	B100	X	X	A23	A120	A120	A120	A100	A100	-	A93 up to 10%	A	B93	A23	A93	A93	X	A93	A93	C23	
Fruit juice		100	>100	-	A80	-	A100	-	A80	A90	A200	A200	A120	-	-	-	-	A	B150	A23	A82	A	A23	A38	-	A23	

Chemical Resistance Chart SITRANS F M

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Chemicals A - Z				Plastic and rubbers									Ceramics and resins				Metals										
Agent	Chemical formula	Concentration (%)	Electrical conductivity (μS/cm) @ 25 °C	Butyl	EPDM	Ebonite	FKM-FPM	Linatex	NBR	Neoprene	PFA	PTFE	PVDF	Aluminium oxide	Zirconium oxide	Ceramic coated	Novolac	Graphite	AISI 316L	Hastelloy C-22	Hastelloy C-276	Platinum	Titanium	Tantalum	Gold	Tungsten carbide	
Maleic acid	C ₄ H ₂ O ₄	sat	TBD	X	A23	A80	A40	A23	X	X	A120	A200	A135	A100	A100	-	-	A	B204	A80	B93	-	A93	A80	-	-	C23
Malic acid	C ₄ H ₆ O ₅	sat	TBD	A23	X	A65	A100	A23	A40	A23	A200	A200	A120	A120	A120	-	-	A	A120	A120	B97	-	A80	B80	-	-	
Manganese chloride	MnCl ₂	sat	>100	-	A60	A100	A100	-	A60	A100	A120	A200	A120	A100	A100	-	-	-	B93	-	A93 (40%)	B93	A93	A93	B93	-	-
Manganese sulfate	MnSO ₄	sat	>100	A23	A80	A60	A100	B23	A60	A70	A200	A150	A120	A23	A23	-	-	A	A93 (50%)	A63	B65	A93	A63	A93	A93	-	-
Mercuric chloride	HgCl ₂	sat	>100 @ 5%	A65	A60	A90	A80	A60	A60	X	A120	A120	A120	-	-	-	A93	A	X	-	-	A100	B80	A100	X	X	
Mercuric cyanide	Hg(CN) ₂	sat	TBD	A65	A23	A90	A23	A60	A60	X	A120	A120	A120	-	-	-	-	A	B23	-	B23	-	A23	A100	-	-	
Mercury	Hg	100	>100	A50	A80	-	A90	A60	A40	A80	A120	A120	A140	A150	A150	-	-	A	A200	A	A200	X	X	A23	X	-	
Methanol	CH ₃ OH	100	<5	A65	A40	A60	X	A60	B40	A80	A120	A120	A140	A65	A65	-	A93	A	B100	A100	A121	A65	B80	B120	A65	-	
Methyl ethyl ketone	C ₄ H ₈ O	100	<5	B40	B90	-	X	X	X	X	A120	A120	X	-	-	-	A93	A	B100	A93	B97	-	B80	B93	-	-	
Methyl isobutyl ketone	C ₈ H ₁₂ O	100	TBD	X	B23	-	X	X	X	X	A120	A120	X	-	-	-	A93	A	B100	-	B100	-	B93	B93	-	-	
Methyl methacrylate	C ₅ H ₈ O ₂	100	TBD	X	X	-	X	X	X	X	A120	A120	A50	-	-	-	-	A	B23	A	-	-	-	B23	-	A23	
Methylene chloride	CH ₂ Cl ₂	100	TBD	X	X	-	X	X	X	X	A120	A120	A50	-	-	-	-	-	B204	X	A93	A40	A100	X	A300	B23	
Milk		100	>100	A40	A120	A	A90	B23	A60	A80	A200	A200	A120	A	A	-	-	A	A120	A80	A38	A100	A32	A149	A100	A23	
Molasses		100	>100	A90	A40	A90	A90	A60	A90	A90	A200	A200	A120	-	-	-	A93	A	A176	-	A38	A	A23	A38	-	-	
Monochloro acetic acid	CH ₂ ClCO ₂ H	100	TBD	A190	C23	-	X	B23	X	X	A190	A190	A80	A190	A190	-	-	A	X	-	B149	A150	A42	A42	-	-	
Naphta		100	TBD	X	X	X	A60	X	A60	X	A200	A200	A135	A23	A23	-	A93	A	B97	A	B93	A100	B32	B38	A100	A23	
Naphtalene	C ₁₀ H ₈	100	<5	X	X	X	A80	X	X	X	A200	A200	A95	-	-	-	-	A	A200	A120	B93	A200	A100	A120	A200	-	
Nickel chloride	NiCl ₂ ·6H ₂ O	sat	TBD	A95 @80%	A80	A95	A100	A60	A80	A80	A200	A200	A120	A95	A95	-	A93	A	B23	A90	A100	A100	A80	A100	A100	A100	X
Nickel nitrate	Ni(NO ₃) ₂	sat	TBD	A65	A100	A90	A120	A60	A80	A80	A200	A200	A140	A	A	-	A93	A	A200	-	B23	A100	A32	B80	A100	-	
Nickel sulfate	NiSO ₄	sat	>100	A90	A80	A90	A80	B23	A80	A80	A200	A200	A140	A80	A80	-	A93	A	A100	-	B93	A100	X	X	A100	X	
Nitric acid	HNO ₃	10	>100	A23	A23	A20	A80	X	X	X	A200	A200	A80	A120	A120	-	-	A	A100	A52	A80	A	A120	A120	A120	X	
Nitric acid	HNO ₃	30	>100	X	X	X	A40	X	X	X	A200	A200	A50	A120	A120	-	A93	X	A50	-	A50 B70 C90	-	A120	A187	A120	X	
Nitric acid	HNO ₃	50	>100	X	X	X	X	X	X	X	A200	A200	A50	A120	A120	-	X	X	A38	-	A50 80 C120	A100	A85	A187	A120	X	
Nitric acid	HNO ₃	98	>100	X	X	X	X	X	X	X	A120	A120	A50	A100 @70%	A100 @70%	-	A93 up to 30%	X	B23	A23	B23	A100	B97	A150	-	X	
Nitric acid + Hydrofluoric acid	HNO ₃ / HF (1:1)	>100	>100	X	A23	X	A40	X	X	X	A120	A120	-	B23	X	-	-	X	X	B23	C23	A100	X	A100	X	X	
Nitrobenzene	C ₆ H ₅ NO ₂	100	<5	A23	X	-	A23	X	X	X	A200	A200	A25	A120	A120	-	-	A	B176	A	-	A100	A80	B97	A100	A23	
Oil, vegetable		<5	<5	X	X	A23	A90	X	A90	A20	A200	A200	-	-	-	-	-	A	B97	A43	A32	-	A40	A93	-	-	
Oleic acid		100	<5 @15°C	X	X	A65	A80	X	A23	X	A120	A200	A120	-	-	-	-	A	A149	-	B80	A120	A23	B97	-	C23 (40%)	
Oxalic acid	H ₂ C ₂ O ₄	25	>100	A100	A140	A80	A100	-	X	X	A200	A200	A60	A120	A120	-	-	A	X	-	-	-	X	-	-	C23	
Oxalic acid	H ₂ C ₂ O ₄	sat	>100	A100	A140	-	-	B23	X	X	A200	A200	A50	A120	A120	-	A93	A	X	-	B80	A150	B23	A93	A100	-	
Ozone solution, aqueous	O ₃	10 ppm	TBD	-	A40	-	A40	-	-	-	A150	A150	A120	-	-	-	-	A	B176	-	-	-	A	-	-	-	
Ozone solution, aqueous	O ₃	0,5 mg/L	TBD	-	A40	-	A40	-	-	-	A150	A150	-	-	-	-	-	A	B176	-	-	-	A	-	-	-	
Palmitic acid		sat	TBD	B23	A23	X	A200	X	A100	X	A200	A200	A120	-	-	-	-	A	B200	-	B40	-	-	-	-	C23	
Paraffin		100	<5	-	X	A80	A200	X	A60	A60	A200	A200	A135	-	-	-	-	A	A60	A60	B40	-	A	A93	-	A23	
Perchloric acid	HClO ₄	10	TBD	A65	A60	-	A200	A60	X	A23	A200	A200	A95	-	-	-	-	A	X	-	B100	-	X	A150	-	-	
Perchloric acid	HClO ₄	70	TBD	-	A60	-	A200	-	X	X	A200	A200	A50	-	-	-	-	X	X	-	B100	A23	X	A150	-	-	

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Perchloroethylene	C ₂ Cl ₄	100	TBD	X	X	–	A200	X	X	X	A120	A200	A135	A120	A120	–	A93	A	A23 B200	–	B97	–	A 100	B93	–	–	A23	
Petroleum oil (crude oil)		100	<5	X	X	–	A80	X	A80	A40	A120	A120	A135	–	–	–	–	A	–	A	–	A23	A	–	–	–	–	
Petroleum oil, refined			<5	X	X	–	A100	X	A80	A40	A120	A120		–	–	–	–	A	B26	–	–	–	–	A150	–	–	–	
Petroleum oil, Sour			<5	X	X	X	A100	X	A80	X	A120	A120		–	–	–	–	A	B26	–	–	–	–	–	–	–	–	
Phenol	C ₆ H ₅ OH	5	TBD	–	–	A20	–	–	–	–	–	–	A80	–	–	–	–	A	B93	–	–	–	–	–	–	–	A23	
Phenol	C ₆ H ₅ OH	100	<5	X	X	X	A100	X	X	X	A200	A200	A50	A180	A180	–	–	A	A200	A95	A200	A180	A23	A120	A180	–	–	
Phosphoric acid	H ₃ PO ₄	10	>100	A65	A80	A90	A90	B23	A23	–	A200	A200	A135	A120	A120	–	A93 up to 50%	A	A60	A	A40	A100	A23	A175	A100	X	–	
Phosphoric acid	H ₃ PO ₄	50	>100	A65	A80	B90	A90	C23	A23	X	A120	A120	–	A120	A120	–	–	A	A100	A	A40 C93	A100	X	A100	A100	–	–	
Phosphoric acid	H ₃ PO ₄	85	>100	A65	A80	B80	A90	C23	X	X	A120	A120	A105	A60	A60	X	–	A	B23	A110	A93	A100	X	A200	–	X	–	
Phosphoric acid + Hydrofluoric acid	H ₃ PO ₄ / HF (1:1)		>100	–	–	X	–	–	–	–	A	A	A	X	X	–	–	–	X	C23	C23	A23	X	X	–	–	–	–
Phosphoric acid + Hydrofluoric acid + Nitric acid	H ₃ PO ₄ / HF / HNO ₃ (1:1:1)		>100	–	–	X	–	–	–	–	A	A	A	X	X	–	–	–	X	C23	C23	C23	X	X	–	–	–	–
Phosphoric acid + Sulphuric acid	H ₃ PO ₄ / H ₂ SO ₄ (1:1)		>100	–	–	X	–	–	–	–	A	A	A	B23	B23	–	–	–	X	A23	A23	A23	X	A	–	–	–	–
Phosphoric acid + Sulphuric acid + Nitric acid	H ₃ PO ₄ / H ₂ SO ₄ / HNO ₃ (1:1:1)		>100	–	–	X	–	–	–	–	A	A	A	B23	B23	–	–	–	X	A23	A23	A23	X	A	–	–	–	–
Phosphorus trichloride	PCl ₃	100	TBD	A	A23	–	A90	X	X	X	A120	A200	A95	–	–	–	A93	A	A32	X	B38	X	A23	A60	–	–	–	–
Plating solutions, brass	3% Cu, 1% Zn, 5.6% Rh; 3% cyanide, sodium carbonate	100	TBD	A90	A23	A90	A60	B23	A80	A60	A200	A200	A100	–	–	–	–	–	B149	–	A38	–	A38	–	–	–	–	–
Plating solutions, cadmium	3% Cadmium oxide, 10% sodium cyanide, 1.2% sodium hydroxide	100	TBD	A70	A150	A90	A80	A23	A80	A90	A200	A200	A100	–	–	–	–	–	B176	–	A38	–	A32	–	–	–	–	–
Plating solutions, Chrome	25% Cr ₂ O ₃ , 12% H ₂ SO ₄ , H ₂ O	100	TBD	X	A100	X	A90	X	X	X	A200	A200	A65	–	–	–	–	X	B176	–	A54	–	X	A150	–	–	–	–
Plating solutions, Copper (Cyanide)	10.5% Cu, 14% sodium cyanide, 6% rochelle salts	100	TBD	A80	B150	A90	A90	B23	A80	A70	A200	A200	A105	–	–	–	–	–	A50	–	A49 B97	–	A32	A23	–	–	–	–
Plating solutions, Gold	22.8% potassium ferrocyanide, 0.2% potassium gold cyanide, 0.8% sodium cyanide, water	100	TBD	A80	B150	A90	A90	B23	A80	A50	A200	A200	A93	–	–	–	–	–	A38	–	A23	–	A23	A23	–	–	–	–
Plating solutions, Lead	8% Pb, 0.8% fluoboric acid, 0.4% boric acid, water	100	TBD	A70	B150	A90	A90	A23	A80	A80	A200	A200	A93	–	–	–	–	–	A32	–	–	–	X	–	–	–	–	–

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Chemicals A – Z				Plastic and rubbers										Ceramics and resins				Metals								
Agent	Chemical formula	Concentration (%)	Electrical conductivity (μS/cm) @ 25 °C	Butyl	EPDM	Ebonite	FKM-FPM	Linatex	NBR	Neo-prene	PFA	PTFE	PVDF	Aluminium oxide	Zirconium oxide	Ceramic coated	Novolac	Graphite	AISI 316L	Hastelloy C-22	Hastelloy C-276	Platinum	Titanium	Tantalum	Gold	Tungsten carbide
Plating solutions, Nickel	11% nickel sulfate, 2% nickel chloride, 1% boric acid, H ₂ O	100	TBD	–	B150	A90	A90	B23	A80	A90	A200	A200	A93	–	–	–	–	A	A38 B60	–	A60	–	A60	–	–	–
Plating solutions, Silver	4% silver, 7% potassium cyanide, 5% sodium cyanide, 2% potassium carbonate	100	TBD	A65	B150	A90	A90	B23	A80	A90	A200	A200	A93	–	–	–	–	–	A38	–	A38	–	A38	–	–	–
Plating solutions, Tin	7% Sn, 18% Stannous fluoborate, 9% fluoboric acid, 2% boric acid	100	TBD	A65	A90	A70	A90	–	A80	A90	A200	A200	A93	–	–	–	–	–	C38	–	A42	–	X	–	–	–
Plating solutions, Zinc	9% Zinc cyanide, 9% sodium hydroxide, 4% sodium cyanide	100	TBD	A65	B150	A90	A90	B23	A80	A90	A200	A200	A93	–	–	–	–	–	–	–	A71–B97	–	A60	–	–	–
Potassium aluminium sulfate	KAl(SO ₄) ₂ 12H ₂ O	sat	TBD	A	A80	A100	A100	A23	A80	A60	A200	A200	A120	–	–	–	A93	A	B55	–	A23	A23	A100	A80	–	C23
Potassium bicarbonate	KHCO ₃	sat	>100	A	A90	A100	A100	A23	A80	A70	A200	A200	A95	–	–	–	A93	–	B97	–	B23	–	A100 (30%)	B97 (30%)	–	–
Potassium bromide	KBr	sat	>100	A	A100	A90	A100	A60	A80	A60	A200	A200	A140	–	–	–	–	A	B100 (30%)	X	–	A100	A23	A100 (<50%)	A100	–
Potassium carbonate	K ₂ CO ₃	sat	>100	A80	A80	A70	A90	A60 @50%	A80	A60	A120	A200	A140	–	–	–	A93	A	B100	A	B100	A100	A100	–	A100	–
Potassium chlorate	KClO ₃	sat	TBD	A	A40	A90	A60	A23	A23	A23	A200	A200	A95	–	–	–	–	X	A100	–	A23 B100 (30%)	A100 (30%)	A100	B23 (30%)	A120	–
Potassium chloride	KCl	sat	>100	A100	A80	A90	A100	A60	A80	A60	A200	A200	A140	A100	A100	–	A93	A	A100 (30%)	A110	A170	A23	A80	A160	–	C23
Potassium chromate	K ₂ CrO ₄	sat	>100	–	A80	–	A100	–	A60	A23	A120	A200	A140	–	–	–	–	X	B100 (<40%)	–	B93 (30%)	–	A100 (<40%)	B23 (30%)	–	–
Potassium cyanide	KCN	All	>100	A65	A80	A90	A90	A60	A80	A80	A120	A120	A140	A	A	–	–	A	B93	C23	B93 (30%)	B23	X	A32 (30%)	X	X
Potassium dichromate	K ₂ Cr ₂ O ₇	sat	>100	A65	A90	X	A90	X	A70	X	A120	A200	A140	–	–	–	A93 up to 10%	X	A93 (<50%)	–	B93 (<50%)	A93 (<50%)	A32	A120	A120	–
Potassium hydroxide	KOH	20	>100	A120	A120	A90	X	A23	B23	A90	A120	A120	X	A120	A120	–	A93	A	B93	A93	B150	A200	B100	X	–	B23
Potassium hydroxide	KOH	50	>100	A80	A120	A90	X	A23	B23	A80	A120	A120	X	B120	A120	–	A93	A	B60	A93	B150	A200	A23	X	A300	–
Potassium hypochlorite	KOCl	sat	TBD	–	A23	–	A40	X	X	B23	A200	A200	A95	A150	A150	–	–	A	B23	A	–	–	A93 (<40%)	B97	–	–
Potassium nitrate	KNO ₃	sat	>100	A120	A80	A80	A100	A60	A60	A60	A200	A200	A140	A120	A120	–	A93	X	B93 (<80%)	A23	B93 (<80%)	A23	A93 (<80%)	B100	A120	–
Potassium perchlorate	KClO ₄	sat	TBD	–	A60	–	A80	–	X	A23	A120	A120	A95	A25	A25	–	–	–	B93 (20%)	–	A23	–	A93 (20%)	–	–	–
Potassium permanganate	KMnO ₄	25	>100	A50	A100	X	A70	A23	X	A40	A100	A200	A120	A120	A120	–	–	A23	B93	A100	A32	A100	B23	–	–	–

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Chemicals A – Z				Plastic and rubbers										Ceramics and resins				Metals								
Agent	Chemical formula	Concentration (%)	Electrical conductivity (µS/cm) @ 25°C	Butyl	EPDM	Ebonite	FKM-FPM	Linatex	NBR	Neoprene	PFA	PTFE	PVDF	Aluminium oxide	Zirconium oxide	Ceramic coated	Novolac	Graphite	AISI 316L	Hastelloy C-22	Hastelloy C-276	Platinum	Titanium	Tantalum	Gold	Tungsten carbide
Potassium sulfate	K ₂ SO ₄	sat	>100	–	A60	A80	A100	A23	A60	A60	A100	A200	A140	A50	A50	–	A93	A	A93 (10%)	A23	B26	A93 (10%)	A32	A23	A120	B23
Propan-1-ol	C ₃ H ₈ O	100	<5	A50	A80	A90	A100	A60	A40	A80	A120	A200	A65	–	–	–	–	A	A93	A104	A93	–	A23	B40	–	–
Propylene glycol	C ₃ H ₈ O ₂	100	<5	A23	A100	–	A120	A23	A80	A23	A200	A200	A65	–	–	–	A93	A	B97	A	B32	–	A23	A32	–	A23
Propylene oxide	C ₃ H ₆ O	100	TBD	–	B23	–	X	X	X	X	A200	A200	X	–	–	–	–	A	A60	–	–	–	–	B32	–	A23
Pyridine	C ₅ H ₅ N	100	<5 @18°C	B23	X	–	X	X	X	X	A120	A200	X	A60	A60	–	–	A	A93	X	A60	A93	B93	B100	A115	B23
Salicylic acid	C ₇ H ₆ O ₃	sat	TBD	A23	A150	–	A150	A23	A23	A23	A200	A200	A95	–	–	–	–	A	A60	A120	A120	A93	A23	B93	A120	C23
Salt water (brine)		sat	>100	A90	A120	A90	A100	A60	A70	A80	A200	A200	A120	A	A	–	–	A	B121	A	A120	–	A23	A38	–	–
Seawater		100	>100	A	A120	A100	A80	A23	A70	A80	A200	A200	A120	–	–	–	A93	A	A23	A	A120	–	A93	A38	–	B23
Silicone oil		100	<5	A23	A60	A80	A100	C23	A60	A20	A200	A200	A120	–	–	–	–	A	B38	A	–	–	A	A	–	–
Soap solution			>100	A65	A150	A80	A100	A60	A110	A80	A200	A200	–	–	–	–	A93	A	B23	A	A23	A93	A32	A23	–	A23
Sodium acetate	C ₂ H ₃ NaO ₂	sat	>100	A	A100	A80	X	C23	X	C23	A120	A200	A140	–	–	–	–	A	A60 B120	A	A93	A200	A93	A23	A120	–
Sodium bicarbonate	NaHCO ₃	sat	>100	A80	A100	A100	A100	A40	A60	A70	A120	A200	A140	A120	A120	–	A93	–	A65	A65	A65	–	A93 (20%)	A65	–	B23 (50%)
Sodium bisulfate	NaHSO ₄	sat	TBD	A80	A90	A90	A100	A60	A80	A90	A200	A200	A140	A120	A120	–	A93	–	X	A	B93	A93 (<50%)	A70 (20%)	A23	A300	–
Sodium bisulfite	NaHSO ₃	sat	TBD	A80	A80	A90	A100	A60	A60	A80	A200	A200	A140	A120	A120	–	–	–	B23	A	B93	A93 (<40%)	B97 (10–40%)	B23	A100	–
Sodium borate	Na ₂ B ₄ O ₇ ·10H ₂ O	sat	TBD	A80	A80	A90	A100	A23	B100	B100	A200	A200	A100	–	–	–	–	A	A200	A	A38	–	B87	A23	–	–
Sodium carbonate	Na ₂ CO ₃	sat	>100	A100	A80	A70	A100	A80	A90	A60	A200	A200	A140	A120	A120	–	A93	A	B150	A100	B93	A100	A93	A93 (<25%)	A100	B23 (<20%)
Sodium chlorate	NaClO ₃	sat	TBD	A90	A80	A80	A60	A60	A80	A23	A200	A200	A120	A120	A120	–	A93	A23	X	A150	A93	–	A93	X	–	–
Sodium chloride	NaCl	sat	>100	A80	A60	A90	A100	A23	A80	A70	A200	A200	A120	A120	A120	–	A93	A	X	A60	A120	A93	A93	A120	A100	B23 (30%)
Sodium chlorite	NaClO ₂	sat	TBD	–	X	A30	B60	X	X	X	A200	A200	A120	A	A	–	–	X	B23 (25%)	–	B23 (10%)	–	–	–	A100	–
Sodium chromate	Na ₂ CrO ₄	sat	TBD	–	A23	A60	A23	–	A23	A23	A120	A120	A95	–	–	–	–	X	A93	–	A93 (80%)	A93 (80%)	A93 (80%)	A93 (80%)	–	B23
Sodium cyanide	NaCN	sat	TBD	A65	A80	A80	A80	A80	A60	A60	A120	A200	A135	–	–	–	–	A100	A23	–	B38	X	A32	A93	X	X
Sodium dichromate	Na ₂ Cr ₂ O ₇	sat	>100	A60	A60	A80	B100	X	A60	X	A120	A200	A100	–	–	–	–	X	B23	–	A32	–	A32	A23	–	–
Sodium hydrogen sulfite	NaHSO ₃	sat	TBD	–	–	A80	–	–	–	–	–	–	–	–	–	–	–	A	–	–	–	–	–	–	–	–
Sodium hydroxide	NaOH	30	>100	A90	A80	A70	A23	A60	A80	A60	A200	A200	–	A120	A120	–	–	A	A60 X93	A86	B97	A93	A93	X	–	A23
Sodium hydroxide	NaOH	50	>100	A90	A80	A70	X	A60	A65	A60	A200	A200	X	B100	A100	A 23	A93	A	A40–B60–X93	A86	A87–B97	A93	A 23	X	–	C23
Sodium hydroxide	NaOH	70	TBD	A80	A40	A70	X	A23	X	A60	A200	A200	–	X	B100	–	–	A	A40	–	A104	–	B93	X	A100	C23
Sodium hypochlorite	NaOCl	5	TBD	B23	B23	A23	A80	C23	X	X	A200	A200	A135	A120	A120	–	–	A	B23	A60	A23	A93	B	A120	–	C23
Sodium hypochlorite	NaOCl	12,5%, 150 g/L Cl ₂	TBD	X	B23	B30	A80	X	X	X	A200	A200	A95	A120	A120	X	–	A	X	A60	A23	A93	A 23	B120	–	–
Sodium metabisulphite	Na ₂ S ₂ O ₅		TBD		A		A				A	A						–	–	A	–	–	–	–	–	–
Sodium nitrate	NaNO ₃	sat	>100	A100	A100	A70 @25%	A100	B23	A60	A70 @25%	A200	A200	A135	A100	A100	–	A93	A	A93	A	X	A93	A23	B93	A100	C23
Sodium nitrite	NaNO ₂	sat	TBD	A100	A80	–	A100	–	A60	A60	A120	A200	A135	A100	A100	–	–	A	B23	A	X	–	A97	B93	–	–

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Agent	Chemical formula	Concentration (%)	Electrical conductivity (µS/cm) @ 25 °C	Butyl	EPDM	Ebonite	FKM-FPM	Linatex	NBR	Neoprene	PFA	PTFE	PVDF	Aluminium oxide	Zirconium oxide	Ceramic coated	Novolac	Graphite	AlSi 316L	Hastelloy C-22	Hastelloy C-276	Platinum	Titanium	Tantalum	Gold	Tungsten carbide	
Sodium perborate	NaBO ₃ ·nH ₂ O	sat	TBD	A23	A60	–	A80	B23	A23	C23	A120	A120	A120	–	–	–	–	A	A40	–	B93 (10%)	A50	–	–	A50	B23 (10%)	
Sodium peroxide	Na ₂ O ₂	10	TBD	A80	A150	A90	A80	A60	A90	A80	A120	A200	A95	A120	A120	–	–	X	B93	A100	B93	A93	–	C23	–	B23	
Sodium phosphate	Na ₃ PO ₄	sat	>100	A90	A80	A90	A100	A60	A80	A60	A120	A200	A140	–	–	–	–	A	B97	A100	B93	A100	B80	A23	A100	–	
Sodium sulfate	Na ₂ SO ₄	sat	>100	A65	A80	A70	A100	A60	A60	A60 @ 25%	A200	A200	A140	A120	A120	–	A93	A	A93	A	A60	–	A93 (10–20%)	A23	A100	B23 (<50%)	
Sodium sulfide	Na ₂ S	50	>100	A65	A60	A80	A80	A60	A60	A80	A200	A200	A120	A120	A120	–	–	A	B80	–	B93	A93	B93	B100 (10%)	A100	B23	
Sodium sulfite	Na ₂ SO ₃	sat	TBD	A100	A60	A70	A60	A23	A60	X	A120	A120	A140	A120	A120	–	–	A	A93 (50%)	–	X	A93 (25%)	A	A120	A100	–	
Sodium thiosulfate	Na ₂ S ₂ O ₃	sat	>100	A90	A60	A80	A90	A60	A60	A80	A200	A200	A135	–	–	–	A93 up to 50%	A	A93	–	B32	A93	A93 (25%)	A93	–	B23 (25%)	
Soybean oil		100	<5	A	X	–	A90	X	A60	A70	A200	A200	A135	–	–	–	–	A	B65	A	A	–	A23	A23	–	A23	
Spirit			TBD	–	–	A60	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Starch solution		100	>100	–	A60	A80	A90	B23	A50	A70	A150	A150	A110	–	–	–	–	A	A23	–	–	–	–	A23	–	A23	
Steam, high pressure			TBD	X	X	X	X	X	X	X	–	X	–	–	–	–	–	–	B293	–	B149	–	A293	–	–	–	
Steam, low pressure			TBD	X	X	X	X	X	X	X	A90	A200	–	–	–	–	–	–	B293	–	B97	–	B97	B149	–	–	
Steam, medium pressure			TBD	X	X	X	X	X	X	X	A90	A200	–	–	–	–	–	–	B293	–	B121	–	A187	–	–	–	
Stearic acid	C ₁₇ H ₃₅ COOH	100	<5	X	X	A80	A40	X	A40	A80	A120	A200	A140	A120	A120	–	–	A	A200	A	A93	A200	A180	B200	A300	C23	
Sugar solution		sat	>100	–	A60	A60	A80	A23	A60	B60	A120	A120	A140	A120	A120	–	–	A	A43	A32	A149	–	–	A32	–	A23	
Sulfur chloride	S ₂ Cl ₂	sat	TBD	X	X	–	A60	X	X	X	A120	A200	A25	A120	A120	–	–	A	X	A	B97	A150	X	X	–	–	
Sulfur trioxide	SO ₃	100	TBD	A	X	A90	B60	X	X	X	A120	A200	X	–	–	–	–	X	B200	A25	B120	X	X	X	–	–	
Sulfuric acid	H ₂ SO ₄	10	>100	B23	B80	A80	A120	A60	A60	A50	A200	A200	A120	A120	A120	–	A93	A	A23	A52	A75	A120	X	A93	A250	C23	
Sulfuric acid	H ₂ SO ₄	50	>100	B23	B23	A60	A100	B23	B23	X	A200	A200	A95	A120	A120	X	–	A	X	A24	A23	A120	X	A54	A250	X	
Sulfuric acid	H ₂ SO ₄	70	>100	B23	X	B40	A80	X	X	X	A200	A200	–	A120	B120	–	–	A100	X	A24	B80	A120	X	A54	A250	X	
Sulfuric acid	H ₂ SO ₄	98	>100	X	X	X	A40	X	X	X	A200	A200	A50	B120	X	–	–	X	A38	A50	A50	A120	X	A54	A250	X	
Sulfuric acid + nitric acid	H ₂ SO ₄ :HNO ₃	50:50	TBD	X	–	B	B35	–	–	X	A200	A200	–	B35	X	–	–	–	–	A23	A23	A23	X	B23	X50	–	
Sulfuric acid fuming	H ₂ SO ₄ + SO ₃	25	TBD	X	X	–	A100	X	X	X	A200	A200	X	A120	A120	–	–	X	–	–	–	A120	X	X	–	–	
Sulfuric dioxide, gaseous, dry and wet	SO ₂		<5	–	–	A30	–	–	–	–	–	–	–	–	–	–	–	A	–	–	–	–	–	–	–	–	
Sulfurous acid, aqueous solution	H ₂ SO ₃	5	TBD	A65	X	A20	A60	B23	X	X	A200	A200	A120	–	–	–	–	A	B93	–	B93	A93	A60	A150	A100	–	
Tall oil		100	<5	X	X	–	A100	X	A100	X	A200	A200	A140	–	–	–	–	A	B93	A	A150	–	–	B149	–	A23	
Tannic acid	C ₇₆ H ₅₂ O ₄₄	100	>5 (50%)	A23	A23	A60	A100	A23	A100	A80	A200	A200	A110	A120	A120	–	–	A	B93	–	X	A93	A93	B80	–	–	
Tartaric acid	C ₄ H ₆ O ₆	sat	>100	A90	X	A80	A80	A80	A60	A100	A200	A200	A120	A120	A120	–	–	–	A93	–	B93	A93	B93	A93	A120	–	
Tin (II) chloride	SnCl ₂	25	TBD	A	B100	A100	A80	A60	A60	A60	A120	A120	–	A150	A150	–	–	A	A93 (10%)	–	B80	A100	A23	B80	–	–	
Tin (IV) chloride	SnCl ₄	sat	TBD	A150	A	–	–	A60	A23	A80	A120	A120	–	A150	A150	–	–	A	X	C23	–	–	–	B120	–	–	
Titanium dioxide		sat	>100	–	–	A80	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	
Titanium tetrachloride	TiCl ₄	sat	TBD	–	X	–	A70	X	X	X	A200	A200	A65	–	–	–	–	A	B23	A	B23	–	A120	A32	–	–	
Toluene	C ₆ H ₅ CH ₃	100	<5	X	X	X	A23	X	X	X	A120	A120	A80	A	A	–	A93	A	A176	A	A93	A93	A93	A93	A111	A23	
Tomato juice		100	TBD	–	A90	–	A60	–	A60	A60	A200	A200	A120	–	–	–	–	A	B120	–	B43	–	–	A32	–	–	
Transformer oil			<5	X	X	–	A180	X	B	X	A200	A200	–	–	–	–	–	A	B32	–	B32	–	–	–	–	–	
Tributyl phosphate	C ₁₂ H ₂₇ O ₄ P	100	TBD	X	A23	–	X	X	X	X	A200	A200	A25	–	–	–	–	A	B23	–	B38	–	–	–	–	–	

Chemical Resistance Chart SITRANS F M

A = Excellent
B = Good, minor effect

C = Conditional, not recommended
for continuous use

X = Not recommended
– = No data available

Chemicals A – Z				Plastic and rubbers										Ceramics and resins				Metals								
Agent	Chemical formula	Concentration (%)	Electrical conductivity (μS/cm) @ 25 °C	Butyl	EPDM	Ebonite	FKM-FPM	Linatex	NBR	Neoprene	PFA	PTFE	PVDF	Aluminium oxide	Zirconium oxide	Ceramic coated	Novolac	Graphite	AISI 316L	Hastelloy C-22	Hastelloy C-276	Platinum	Titanium	Tantalum	Gold	Tungsten carbide
Trichloroacetic acid		50	<5	X	X	–	A80	X	B23	X	A200	A200	A50	–	–	–	–	A	X	A120	A93	–	X	B149	–	X
Trichloroethylene	CHCl=CCl ₂	100	TBD	X	X	X	A100	X	X	X	A120	A120	A140	A23	A23	–	–	A	B120	A	A93	–	A93	B97	–	A23
Triethanolamine	C ₆ H ₁₅ NO ₃	100	TBD	A65	A23	X	X	B23	A23	A60	A200	A200	A50	–	–	–	–	A	B23	A95	A23	A200	A40	B97	–	A23
Trisodium phosphate	Na ₃ PO ₄	sat	TBD	A90	A23	A90	A80	A23	A90	A90	A200	A200	A120	–	–	–	A93	A	E71 (10%)	A200	E49 (10%)	–	–	B26	–	–
Urea		50	>100	A65	A60	A90	A80	A23	A60	A65	A100	A120	A95	–	–	–	A93	A	B97	A90	B23	–	A90	A90	–	A23
Vinegar		100	>100	A65	A60	A65	A100	B23	X	A80	A200	A200	A120	–	–	–	A93	A	B82	A	–	–	A23	A23	–	C23
Vinyl acetate	C ₄ H ₈ O ₂	100	TBD	–	X	–	X	X	X	X	A100	A200	A120	–	–	–	–	–	A40	A	A40	–	–	–	–	–
Waste water		100	>100	–	X	A	A60	A	A60	B	A120	A120	–	A	A	–	–	A	B23	A	A23	A	A23	A23	–	–
Water, demineralized		100	<5	A70	A80	A80	A100	A23	A80	–	A200	A200	–	A100	A100	–	A93	A	B100	A	A200	A	–	A23	–	–
Water, potable		100	>5	A100	A80	A80	A80	A23	A80	B23	A200	A200	A150	A100	A100	A 23	A93	A	B100	A	A 23	A	A23	A 23	–	–
Wine		100	>100	A65	A80	A	A80	A23	A80	A	A200	A200	A120	A100	A100	–	–	A	A23	A	A38	–	A23	A23	–	–
Xylene	(CH ₃) ₂ C ₆ H ₄	100	<5	X	X	X	B80	X	X	X	A100	A200	A95	–	–	–	–	A	B93	A120	A150	A100	A93	A93	–	A23
Zinc chloride	ZnCl ₂	sat	>100	A90	A80	A70	A100	A60	A100	A60	A200	A200	A120	A120	A120	–	A93	A	X	C23	B120	A93	A93 (<70%)	A80	–	X
Zinc sulfate	ZnSO ₄	sat	>100	A60	A60	A70	A100	A60	A60	A60	A200	A200	A140	–	–	–	A93	A	A97	A100	A100	A100	A93 (<40%)	A32	A100	–