Corrosion resistance

Resistance table

The table below provides a summery of the resistance to different media for metal materials most commonly used for flexible elements. The table has been drawn up on the basis of relevant sources in accordance with the state of the art; it makes jet no claims to completeness.

The main function of the table is to provide the user with an indication of which materials are suitable or of restricted suitability for the projected application, and which can be rejected right from the start.

The data constitutes recommendations only, for which no liability can be accepted. The exact composition of the working medium, varying operating states and other boundary operating conditions must be taken into consideration when choosing the material.

Corrosion resistance

Table key

Assessment	Corrosion behaviour	Suitability
0	resistant	suitable
1	uniform corrosion with reduction in thickness of up to 1 mm/year	
P	risk of pitting corrosion	restricted suitability
S	risk of stress corrosion cracking	
2	hardly resistant, uniform corrosion with reduction in thickness of more than 1 mm/year up to 10 mm/year	not recommended
3	not resistant (different forms of corrosion)	unsuitable

Meanings of abbreviations

adp: acid dew point
bp: boiling point
cs: cold-saturated (at room temperature)
dr: dry condition
hy: hydrous solution
me: melted
mo: moist condition
sa: saturated (at boiling point)

Corrosion resistance Corrosion resistance

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Medium			Materials																		
				Stainless steels			Nickel alloys					Copper alloys			Pure metals						
Designation Chemical formula	Concentration	Temperature	Non-/low- alloy steels	Ferritic steels	Austenitic steels	Austenitic + Mo	steels 2.4858 / alloy	8252.4816 / alloy 600	2.4856 / alloy 625	2.4610, 2.4819 /alloy C-4, C-276	2.4360 / alloy 400	2.0882 / alloy CuNi 70/30	Tombac	Bronze	Copper	Nickel	Titanium	Tantalum	Aluminium	Silver
	%	C																		
Acetanilide (Antifebrine) C_8H_9NO		<114	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0
Acetic acid CH_3COOH or $C_2H_4O_2$	5 5 50 50 80 96 98	20 bp 20 bp 20 20 bp	3 3 3 3 3 3 3	0 3 3 3 3 3 3	0 0 0 3 P 3 3	0 0 0 3 P P 3	0 0 0 0 0 0 0	1 1 1 1 1 1 1	0 0 0 0 0 0 0	0 0 0 0 0 0 0	1 1 1 1 1 1 1				0 0 	3 3 	0 0 1 0 0 0 0	0 0 0 0 0 0 0	0 0 3 	 0
Acetic acid vapour –	33 100 100	20 >50 <bp		3 3 3	1 3 3	1 3 3	0 0	1 3		0 0	1 3	3 3			3 3	3 3	0 0		1 3	
Acetic aldehyde $CH_3–CHO$	100	bp	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Acetic anhydride $(CH_3–CO)_2O$	all 100 100	20 60 bp	1 3 3	0	0 0 0	0 0 0	0	1 3	0	0 0 0	1	1	3	0 1	0 1	1 1 1	0 0 0	0 0 0	0 1 3	0 0 0
Acetic anilide (Antifebrine)		<114	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0
Acetone CH_3COCH_3	100	bp	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Acetyl chloride CH_3COCl		20	1	1	1	1	1	1	0	0	1	1		1	1	1		0	1	0
Acetylene dr H-C=C-H dr		20 200	0 1	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	3 3	3 3	3 3	3 3	0 3	0 0	0 0	0 1	3 3
Acetylene dichloride hy $C_2H_2Cl_2$ dr	5 100	20 20	0	P	P	P	0	0	0		0					0			1 0	
Acetylen tetrachloride $CHCl_2–CHCl_2$	100 100	20 bp bp	0 0 1	0 0	0 0	0 0				0 0					0 1 3	0 0 1	0 1		0 3 3	
Adipic acid $HOOC(CH_2)_4COOH$	all	200	0	0	0	0	0	0	0	0	0					0	0	0	0	0
Alcohol see ethyl or methyl alcohol																				

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	%	C																		
Allyl alcohol CH_2CHCH_2OH	100	bp				0	0	0	0	1	0					0				
Allyl chloride $CH_2=CHCH_2Cl$	100	25				0	0	0	0		0					0				
Alum $KAl(SO_4)_2$ hy hy hy sa	100 10 10 3	20 20 <80	1 1 1	1 0 1 3	0 0 0 3	0 0 0 1	0	1	0	0 1 1 3		1 1 1 3	1	1	1 1		0 0	0 0 0	1 1	
Aluminium Al	me	750	3	3	3	3					3					3	3			
Aluminium acetate $(CH_3–COO)_2Al(OH)$ hy	hy sa	3 3 20	3 3	0 0	0 0	0 0				0 1						0	0 0	1		
Aluminium chloride $AlCl_3$	hy	5 20	3	3	3	P	1	1	0	0	1	3	3	1	3	1	0	0	3	1
Aluminium fluoride AlF_3	hy	10 25	3	3	3	3				1	1				1	1	0	3	1	1
Aluminium formate $Al(HCOO)_3$			1	0	0	0	0	0	0	0				0	1	0	0	0	0	
Aluminium hydroxide $Al(OH)_3$	hy	10 20	1	3	0	0	0		0	0	1	0			0		0	0	1	
Aluminium nitrate $Al(NO_3)_3$			0	0	0	0	0	0	0	0	0						0	0	1	
Aluminium oxide Al_2O_3		20	1	1	0	0	0		0	0	3	0	0	0	0			0	3	
Aluminium potassium sulphate see alum																				
Aluminium sulphate $Al_2(SO_4)_3$	hy hy	10 15 <bp 50	3 3	3 3	3 3	0 1	0	1 1	0 1	1 1	3 1	3 1	1 1	3 1	3 1	1 1	0 0	0 0	3 3	
Ammonia NH_3	dr hy hy hy	10 2 20 40 bp	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	0	0 1 1 3	0 1 1 1	0 1 1 1	1 0 3 3	0 3	S S	S S	0 3 3	3 3 3	0 0 0 0	0 0 0 0	0 1	0 0

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		%	C																					
Ammonia bromide NH_4Br	hy	10	25	3	P	P	P	0		0	1									0	1	
Ammonium acetate $CH_3–COONH_4$				1	0	0	0													0	0	
Ammonium alum $NH_4Al(SO_4)_2$	hy	cs	20			0	0											3		0		
Ammonium bicarbonate $(NH_4)HCO_3$	hy			0	0	0	0	1	3			3	3			3				0	0	
Ammonium bifluoride NH_4HF_2	hy hy	10 100	25 20	3 3	3 3	3 0	3 0				0 0							3 3	0 0			
Ammonium bromide see ammonia bromide																						
Ammonium carbonate $(NH_4)_2CO_3$	hy hy	1 50	20 bp	0 0	0 0	0 0	0 0	0 0	0 0	0 0	1 1	0 0	1 1			1 1	1			0 0	0 0	0 0
Ammonium chloride NH_4Cl	hy hy hy	1 10 50	20 100 bp	1 1 1	P P P	P P P	P P P	0 0 0	0 0 1	0 0 0	0 0 1	0 1 1	1 1 1	S S	S S	1 1 1	1 1 1	0 0 0	0 1 1	1 1 1	1 1 1
Ammonium fluoride NH_4F	hy hg hy	10 3 20	25 70 80	1 3	1	0 3	0 3				0 0			3	3	3		1	0 0			
Ammonium fluosilicate $(NH_4)_2SiF_6$	hy	20	40	3		1	0	0	0	0	0	0					0					
Ammonium formate $HCOONH_4$	hy hy	10 10	20 70	1	0	0	0	0	0	0	0	0						0	0 0	0 0		
Ammonium hydroxide NH_4OH		100	20		0	0	0	0	0	0	0	3	3			3	0	0	0	1		
Ammonium nitrate NH_4NO_3	hy hy	5 100	20 bp	3 3	0 0	0 0	0 0	0 0	1	0	0 0	3 3	3	3	3	3 3			0 0	0 0		
Ammonium oxalate $(COONH_4)_2$	hy hy	10 10	20 bp	1 3	1 3	0 1	0 0		1 1	0 0	0	1 1	1 1			1 1		0 1	0 0			
Ammonium perchlorate NH_4ClO_4	hy	10	20		P	P	P				1							0				

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		%	C																			
Ammonium persulphate $(NH_4)_2S_2O_8$	hy hy	5 10	20 25	3	0 1	0 1	0 1	0	1	0	0 0	3 3	3 3	3	3	3 3	3 3	0 0	0	3	3
Ammonium phosphate $NH_4H_2PO_4$	hy	5	25	0	1	1	0	0	1	0	0	1	1			3	1	0	0	1	
Ammonium rhodanide NH_4CNS			70		0	0	0											0		0	
Ammonium sulphate $(NH_4)_2SO_4$	hy hy hy	1 10 sa	20 20 bp	0 0 1	0 1	0 1 0	0 0	0 0	1 3	0	0 1 3	1 1 2	3 3 3	3	1	3 3	1 1	0 3 0	0 0 0	P P	1
Ammonium sulphite $(NH_4)_2SO_3$	cs sa	20 bp			1 3	0 1	0 1	3 3	3 3			3 3	3 3			3 3	3 3	0 0	0 0		
Ammonium sulphocyanate see ammonium rhodanide																					
Amyl acetate $CH_3–COOC_5H_{11}$	all 100	20 bp	1		1	1	1	1 0	1 1	1 1	1 0	1 0				1	1 0		1	1 0	
Amyl alcohol $C_5H_{11}OH$	100 100	20 bp	0 1	0 0	0 0	0 0		0	0	0	0	0	0	0	0	0	0 0	0	1		
Amyl chloride $CH_3(CH_2)_3CH_2Cl$	100	bp	1		P	P	0	1	0	0	1	0			0	1	0	0	3		
Amyl thiol	100	160			0	0				0											
Aniline $C_6H_5NH_2$	100 100	20 180			0 1	0 1	0	1	0	0	3 1	3	3	3	3	3	0		0 3	0 0
Aniline chloride $C_6H_5NH_2HCl$	hy hy	5 5	20 100		P P	P P	P P				0 0		3			3	3	0 0	0	3	
Aniline hydrochloride see anilin chloride																					
Aniline sulphate			20				0				0									1	
Aniline sulphite	hy hy	10 cs	20 20				0 0		1		0 0										
Antifreeze Glysantine			20		0	0	0	0	0	0	0	0					0	0	0	0	

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		%	C																				
Antimony Sb	me	100	650	3						0	0									3		3	
Antimony trichloride $SbCl_3$	dr hy		20 100	0 1	3 3	3 3	3 3										0 0					3 3	
Aqua regia $3HCl+HNO_3$			20	3	3	3	3		3		3		3	3	3	3		0	0				1
Arsenic As			65 110			0 1	0 1																
Arsenic acid H_3AsO_4	hy hy	90	20 110	3	3	0 3	0 3		3				3			3						3	
Asphalt			20	0	0	0	0						0	0	0	0	0					0	
Azobenzene $C_6H_5–N=N–C_6H_5$			20		0	0	0	0	0	0	0	0						0	0	0		0	
Baking powder	mo			1	0	0	0	0	0	0	0	0				1						0	
Barium carbonate $BaCO_3$			20	3	0	0	0	0		0	0	0	0	0	0	0		0	0	1			
Barium chloride $BaCl_2$	hy hy	5 25	20 bp		P P	P P	P P	1 1	1 1	0 0	0 0	1 1	3			3	1 1	0 0	0 0	3 P			
Barium hydroxide $Ba(OH)_2$	solid hy hy hy hy 	100 all all 100 cs sa 50	20 20 bp 815 20 bp 100	0 0 0 0 0 0 0	0 0 0 0 0 0 0	0 0 0 0 0 0 0	0 0 0 0 0 0 0	0 0 0 0	1 1 1 1	 	0 0 1 1 1 	1 1 1	0 0 0 0 	1 1 1 	0 0 0 	0 0 1 0 0	0 1 0 0 	 	 	3 3 0 0			
Barium nitrate $Ba(NO_3)_2$	hy	all	bp		0	0	0	0	1	0			3			3		0	0	0			
Barium sulphate $BaSO_4$			25	0	0	0	0	0		0		0	0	0	0	0	1	0	0	0			
Barium sulphide BaS			25		0	0	0						3	1	3	3							

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		%	C																				
Basic aluminium acetat see aluminium acetat																							
Beer		100 100	20 bp	3 3	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	1 1	0 0	1 1	0 0	0 0	0 0	0 0	
Benzaldehyde $C_6H_5–CHO$	dr		bp		0	0	0					1						1	0	0	0		
Benzene		100 100	20 bp		0 0	0 0	0 0	0	0 1	0 1	1 1	0 1	0 1	0	0		0 1	0 1	0 0	0 1	1	
Benzenesulfonic acid $C_6H_5–SO_3H$	hy hy	5 5	40 60	3 3	0 3	0 1	0 1																
Benzine		100	25		0	0	0	0	0	0	0	0	0	0	0	1		0		1			
Benzoic acid C_6H_5COOH	hy hy	all all	20 bp	1 3	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	3	0 0	0 0	0 0	0 0	0 0	0 3			
Benzyl alcohol $C_6H_5–CH_2OH$		all	20	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
Biphenyl $C_6H_5–C_6H_5$		100 100	20 400	0 0	0 0	S S	S S	0 0	0 0	0 0	0 0	0 0	0 0	0	0	0 0	0 0	0 0	0 0	0 0			
Blood			20	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
Boiled oil			20	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0			
Borax $Na_2B_4O_7$	hy hy	cs sa		1 3	0 0	0 0	0 0						0	0	0	0		0 0	0 0	0 1			
Boric acid H_3BO_3	hy hy hy	50 50 70	100 150 150	3 3 3	0 1 1	0 0 1	0 0 1	0 0 0	1 1 1	0 0 0	0 0 0	1 1 1	0	1 1 1	1	1 1 1	1 1 1	0 0 0	0 0 0	1 1 1	1 0 0	
Boron B			20 900	0 0	0	0	0																
Bromine Br	dr mo	100 100	20 20	P P	P P	P P	P P	1	0 3	0	0 3	0 0	1	0 3	1	0 3	0 0	3 0		3 3	0 0		
Bromine water		0.03 1	20 20		P P	P P	P P																

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Bromoform dr $CHBr_3$ mo			20	0 3	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0			0 0	0 0					3 3	
1,3-Butadiene CH_2=CHCH=CH_2								0	0	0		0				0	0				0	
Butane C_4H_{10}		100 100	20 120	0	0 1	0 0	0 0	0	0	0	0	0	0	0	0	1	0			1	
Butanol CH_3–CH_2–CH_2–CH_2OH		100 100	20 bp	0 0	0 0	0 0	0 0	0	0 0	0	0 0	0 0	0	0	0	0	0	0 0	0 0	0 0	0	0
Butter			20	3	0	0	0	0	0	0	0					3				0		
Buttermilk			20	3	0	0	0	0		0	0	3			3	3				0		
Butylacetate $CH_3COOC_4H_9$		1 1	20 bp	1 1	0 0	0 0	0 0	0 0		0 0	0 0	1 0	0 0	0	0	0 0		0 0	0 0	0 0	0	0
Butyric acid hy CH_3–CH_2–CH_2–COOH hy		cs sa	20 bp	3 3	0 3	0 3	0 0	1 1	3 3	0 0	0 0	1 1					3 3			0 1		
Cadmium me Cd						3	3															
Calcium me Ca			850	3		3	3															
Calcium bisulphite $CaSO_3$		cs sa	20 bp	3 3	3 3	0 3	0 0						1	3	1	0		0 0				
Calcium carbonate $CaCO_3$			20	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Calcium chlorate hy $Ca(ClO_3)_2$ hy		10 10	20 100		P 3	P 3	P P	1 1	1 1	1 1	1 1	1 1	3 3			1 1	1 1		0 0				
Calcium chloride hy $CaCl_2$ hy		5 10 cs sa	100 20	3 3 3 3	P P P P	P P P P	P P P P	0 0 0	0 0 0	0 0 0	0 0 0	0 1 3	0 0 0	3 3 3	1	1 0	0 1	0 0 0 P	0 0 0 0	3 3 3 3		
Calcium hydroxide $Ca(OH)_2$				0	0	0	0	1	1	0	0	1	0	0	0	1	1	0	0	3		

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Calcium hypochlorite hy $Ca(OCl)_2$ hy		2 cs	20	3 3	3 3	3 3	P P	0	3	0	0 1	3	3			3	3	0	0 0	3 3		
Calcium nitrate $Ca(NO_3)_2$		all	20 100	3 3	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0						0 0		0 0		
Calcium oxalate mo $(COO)_2Ca$			20	1	0	0	0	0	0	0	0	0	0	0	0			0	0	3		
Calcium oxide CaO			20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		3		
Calcium sulphate mo $CaSO_4$ mo			20 bp	1 1	0 0	0 0	0 0	0 0		0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	1 1		
Calcium sulphite hy $CaSO_3$ hy		cs sa		0 0	0 0	0 0	0 0									1 1		0 0	0 0	1 1		
Carbolic acid $C_6H_5(OH)$			20 bp	0 3	0 3	0 3	0 0	0	1	0	0 1	1 0	0			0	1 0	0 0	0 0	0 3		
	hy	90	bp	3	3	3	0				1	0				1	0	0	0	3		
Carbon dioxide dr CO_2 dr		100 100	<540 1000	0 3	1	0	0	0	0 3	0	0	0				3	0		0 0			
mo		20	25	1	1	0	0	0	0	0	0	0	0	3	1	1			0	3		
mo		100	25	3	1	0	0	0	1	0	0	1				0	1	0	0	3		
Carbon monoxide CO		100 100	20 <540	0 3	0 0	0 0	0 0		0 3	0	0 0	0 1				0 3	0 3	0 0	0 0	0 1	0 3	
Carbon dr **tetrachloride** dr CCl_4 mo			20 bp 25	0 1 1	0 0 1	0 0 1	0 1 1	0 0	0 0	0 0	0 0 0	0 0 0	0	0 0	0 0	0 0 1	0 0 0	0 0 0	0	0 3 3		
mo			bp	3			1	0	0	0	0	0	0							3		
Carbonic acid see carbon dioxide																						
Caustic-soda solution see sodium hydroxide																						
Chilean nitrate see sodium nitrate																						
Chloral CCl_3–CHO			20								0								0	3		

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Chloramine				3	3	1	0	0		0	0	0										
Chloric acid $HClO_3$	hy		20	3	3	3	3	0			0								0	0	3	3
Chlorinated lime see calcium hypochlorite																						
Chlorine Cl_2	dr	100	200	0	0	0	0		0	0	0	0	0	0	0	0	0	1	0	0	0	
	dr	100	300	3	3	3	0		0	0	0	0										
	dr	100	400	3	3	3	3		0	0	0	0										
	mo		20	3	3	3	3	0			0							0	0	0	3	
	mo		150	3	3	3	3				0							0	0	0	3	
Chlorine dioxide ClO_2	hy	0.5	20	3	3	3	3				1				3			0	0			
Chloroacetic acid $CH_2Cl–COOH$	all	20	20	3	3	3	L	3		1	1	3	3			3	1	0	0	3		
	hy	30	80	3	3	3	3		3		0			3	3	3		0	0	3		
Chlorobenzene C_6H_5Cl	dr			0	0	0	0				0											
	mo	100	20	0	P	P	P	0	0	0	0	0	0	0	0	1	1	0	0	1		
Chloroethane C_2H_5Cl																						
Chloroform $CHCl_3$	dr			1	1	1	1	0	0	0	0	0	0	0	0	0	0	0		0		
	mo			3	P	P	P	0	0	0		0						0		3		
Chloronaphthaline $C_{10}H_7Cl$				0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0		
Chlorophenol $C_6H_4(OH)Cl$				1	0	0	0				0											
Chlorosulphon acid $HOSO_2Cl$	hy	100	20	0	0	0	0	0	0	0	0	0				0	0	0	0	0	3	
	mo		20	3	3	3	1	1	1	1						3	3	3	0	3	3	
Chrome alum $KCr(SO_4)_2$	hy	1	20	3	3	0	0					1						0		1		
		cs		3	3	1	0		0			0		3			1	0		3		
		sa		3	3	3	3		0			1					3	0		3		
Chromic acid Cr_2O_3 (H_2CrO_4)	hy	5	20	3	3	0	0	1	3	0	0	3	3	3	3	3	3	0	0	1	0	
	hy	5	90	3	3	3	3	0			1	3	3	3	3	3	3	0	0	0		
	hy	10	20	3	3	0	0	1	3		0	3	3	3	3	3	3	0	0	1		
	hy	10	65	3	3	3	3	0			0	3	3	3	3	3	3	0	0	0		
	hy	10	bp	3	3	3	3	3	3		0	3	3	3	3	3	3	0	0	3		
	hy	50	bp	3	3	3	3	1	3		3	3	3	3	3	3	3	0	0	3		
	hy	60	20	3	3	3	3	1	3			3	3	3	3	3	3	0	0	3		

Corrosion resistance

Resistance table

Medium		Concentration	Temperature	Materials																		
					Stainless steels			Nickel alloys					Copper alloys			Pure metals						
Designation Chemical formula		%	C	Non-/low- alloy steels	Ferritic steels	Austenitic steels	Austenitic + Mo	steels 2.4858 / alloy	8252.4816 / alloy 600	2.4856 / alloy 625	2.4610, 2.4819 /alloy C-4, C-276	2.4360 / alloy 400	2.0882 / alloy CuNi 70/30	Tombac	Bronze	Copper	Nickel	Titanium	Tantalum	Aluminium	Silver
Chromic-acid anhydride see chromium oxide																						
Chromium oxide CrO_3				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Chromium sulphate $Cr_2(SO_4)_3$	cs			3	0	0	1		0	0	0	0					0					
	sa			3	0	1	1		1	0	0	0					0					
Cider			20	3	0	0	0	0	0	0	0	0					0	0	0	1	0	
			bp	3	0	0	0	0	0	0	0	0					0	0	0	1	0	
Citric acid $C_6H_8O_7$	hy	all	<80	3	3	0	0		0		0											
	hy	all	bp	3	3	3	0		0		0											
Combustion gases free from S or H_2SO_4 and Cl			≤400	0	0	0	0				0											
with S or H_2SO_4 and Cl			>adp and ≤400	0	0	0	0				0											
Copper (II) acetate $CU_2(CH_3COO)_4$	hy		20	3	0	0	0	0	1	0	0	1	3		3	3	1	0	0	3	1	
	hy		bp	3	0	0	0							3				0		3		
Copper (II) chloride $CuCl_2$	hy	1	20	3	3	P	P	0	3		1	3	3			3	3	0	0	3		
	hy	cs		3	3	3	3	3	3		0	3				3	3	0	0	3		
Copper (II) nitrate $Cu(NO_3)_2$	hy	1	20		0	0	0	0	3		0	3	3			3	3	0	0	3		
	hy	50	bp		0	0	0	0	3		1	3					0	0	0			
	hy	cs			0	0	0	0	3		1	3	3			3	3	0	0	3		
Copper (II) sulphate $CuSO_4$	hy	cs		3	0	0	0	0	0	0	0	3	3			3	3	0	0	3		
	hy	sa		3	1	0	0	0	3		0	3				3	3	0	0	3	0	
Cresol $C_6H_4(CH_3)OH$	all		20	3	1	0	0		0	0		0					0	0		0	0	
	all		bp	3	1	1	0		0	0	1	0					0	0		3	0	
Crotonaldehyde $CH_3–CH=CH–CHO$			20	3		0	0	0	0	0	0	0	0	0		0				0		
			bp			1	0	0	0	0	0	0	0	0						0		
Cyclohexane $(CH_2)_6$				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Diammonium phosphate see ammonium phosphate																						

Corrosion resistance

Resistance table

Medium				Materials																			
					Stainless steels			Nickel alloys					Copper alloys			Pure metals							
Designation Chemical formula	Concentration	Temperature		Non-/low- alloy steels	Ferritic steels	Austenitic steels	Austenitic + Mo	steels 2.4858 / alloy	8252.4816 / alloy 600	2.4856 / alloy 625	2.4610, 2.4819 /alloy C-4, C-246	2.4360 / alloy 400	2.0882 / alloy CuNi 70/30	Tombac	Bronze	Copper	Nickel	Titanium	Tantalum	Aluminium	Silver
	%	C																					
Dibromethane $CH_2Br–CH_2Br$				1		0	0										0			3	
Dichlorflourmethane CF_2Cl_2			dr			0	0	0	0	0	0	0							0	0	
			dr			0	0	0	0	0	0	0							0	0	
			mo			0	0	0	0	0	0	0							0	0	
Dichloroethane $CH_2Cl–CH_2Cl$			dr	0	P	P	P	1	0				0	1		1		0	0	0	1
	100	20																			
	100	20	mo		P	P	P												0		1
Dichloroethylene see acethylene dichloride																					
Diethyl ether $(C_2H_5)_2O$				0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
Ethane $CH_3–CH_3$		20		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ether see diethyl ether																					
Ethereal oils		20		1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ethyl alcohol C_2H_5OH	all	20		0	0	0	0	0	0		0	0	0	0	0	0	0	0	0	0	0
	all	bp		1	0	0	0	0	0		0	0	0	0	0	0	0	0	0	0	0
Ethylbenzene $C_6H_5–C_2H_5$				1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ethyl chloride C_2H_5Cl				0	S	S	S	0	0	0	1	0	0	1	1	1	0		0	1	0
Ethylene $CH_2=CH_2$		20		0	0	0	0													0	
Ethylene dibromide see dibromethane																					
Ethylene dichloride see dichloroethane																					
Ethylene glycol $CH_2OH–CH_2OH$	100	20		0	0	0	0	0	1	0	0	1	0	0	0	0	1	0	0	0	
Exhaust gases see combustion gas																					

Corrosion resistance

Resistance table

Medium				Materials																			
					Stainless steels			Nickel alloys					Copper alloys			Pure metals							
Designation Chemical formula	Concentration	Temperature		Non-/low- alloy steels	Ferritic steels	Austenitic steels	Austenitic + Mo	steels 2.4858 / alloy	8252.4816 / alloy 600	2.4856 / alloy 625	2.4610, 2.4819 /alloy C-4, C-246	2.4360 / alloy 400	2.0882 / alloy CuNi 70/30	Tombac	Bronze	Copper	Nickel	Titanium	Tantalum	Aluminium	Silver
	%	C																			
Fats				0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	
Fatty acid $C_{17}H_{33}COOH$	100	20		0	0	0	0	0	0	0	0	1	1	1	0	1	0	0	0	0	0	0	0
	100	60		3	0	0	0	0	0	0	0	0		1	1	1	0	0	0	1	0	0	0
	100	150		3	3	3	0	0	0	0	0	1		1	1	3	0	0	0	3	0	0	0
	100	180		3	3	3	0	0	0	0	0	1		1	3	3	0	0	0	3	0	0	0
	100	300		3	3	3	0	0	0	0	0	1		3	3	3	0	0	0	3	0	0	0
Fixing salt see sodium thiosulphate																							
Flue gases see combustion gases																							
Fluorine F		20	mo	3	3	3	3				0	0	3	3	3	3	0	3		3	0		
	100	20	dr	0	0	0	0				0	0	0	0	0	0	0	0		3	0		
	100	200	dr	0	0	P	P				0	0				3	0	0		3			
	100	500	dr	3							0									3			
Fluorosilicic acid $H_2(SiF_6)$	100	20		3	3	P	P				1		1	3		1	0	3		3			
	25	20		3	3	3	3	1	1	1	1	3		3	1	1	0	1		3			
	70	20		3	3	3	3				1									3			
			vapour	3	3	3	3				1							2		3			
Formaldehyde CH_2O	10	20	hy	3	0	0	0	0	0	0	0	0	0	3	0	0	0	0		1	0		
	40	20	hy	3	0	0	0	0	0	0	0	0	0	3	0	0	0	0		1	0		
	all	bp	hy	3	0	0	0				0							0		3			
Formic acid HCOOH	10	20		3	3	1	0	0	1	0	0	1		0		0	1	0	0	0	1		
	10	bp		3	3	3	1	0	1	0	0	1		0			3	0		3	3		
	80	bp		3	3	3	3	0	1	0	0	3		0		0	1	3		3	3		
	85	65		3	3	3	3	0	1	0	0	2		0		1	1	3		3	3		
Fuels Benzine		20			0	0	0	0	0	0	0	0		0	0	0	0	0		0			
		bp			0	0	0	0	0	0	0	0		0	0	0	0	0		0			
Benzene		20			0	0	0	0	0	0	0	0		0	0	0	0	0		0			
		bp			0	0	0	0	0	0	0	0		0	0	0	0	0		0			
Benzine-alcohol-mixture		20			0	0	0	0	0	0	0	0		0	0	0	0	0		0			
Diesel oil		20			0	0	0	0	0	0	0	0		0	0	0	0	0		0			
Furfural	100	25		1	1	1	1				0		0	3	0	0			0	0			
	100	bp		3	1	1	1				0					3			0	0			
Gallic acid $C_6H_2(OH)_3COOH$	1	20	hy	1	0	0	0				0								0				
	100	20		3	0	0	0												0				
	100	bp		3	0	0	0		3										0				

Resistance table

Medium			Concentration	Temperature	Materials																		
						Stainless steels			Nickel alloys					Copper alloys			Pure metals						
Designation Chemical formula			%	C	Non-/low- alloy steels	Ferritic steels	Austenitic steels	Austenitic + Mo	steels 2.4858 / alloy	8252.4816 / alloy 600	2.4856 / alloy 625	2.4610, 2.4819 /alloy C-4, C-276	2.4360 / alloy 400	2.0882 / alloy CuNi 70/30	Tombac	Bronze	Copper	Nickel	Titanium	Tantalum	Aluminium	Silver
Mixed acids HNO_3 H_2SO_4 H_2O																							
	%	%	%																				
	90	10	–	20	0		0	0					3		3	3	3	3	0		1	3	
	50	50	–	20			0	0											0		3		
	50	50	–	90		3	1	1															
	50	50	–	120		3	3	3															
	38	60	2	50		3	3	0															
	25	75	–	50		3	3	0															
	25	75	–	90		3	3	1															
	25	75	–	157		3	3	3															
	15	20	65	20	3	3	3	0															
	15	20	65	80		3	3	1															
	10	70	20	50		3	3	0															
	10	70	20	90		3	3	1															
	5	30	65	20	3	3	3	0															
	5	30	65	90	3	3	3	0															
	5	30	65	bp	3	3	3	1															
	5	15	80	134		3	3	1															
Molasses						0	0	0	0	0	0	0	0					0	0	0	0		
Monochloroacetic acid see chloroacetic acid																							
Naphthaline $C_{10}H_8$		100	20	0	0	0	0	0											0		1		
		100	390	0	0	0	0	0															
Naphthaline chloride		100	45									0											
		100	200									0											
Naphthaline sulphonic acid $C_{10}H_7SO_2H$		100	20	0		0	3	3				0											
		100	bp			3	3	3				0											
Naphthenic acid	hy	100	20			P	P	P	0	0	0		0					1			0		
Nickel (II) chloride $NiCl_2$	hy	10	20	3	3	P	P	P	0	1	0	0	1	1	3	1	3	1	0			0	
	hy	10	bp	3	3	3	P	P				0							0				
		tot	70					0				1											
Nickel (II) nitrate $Ni(NO_3)_2$	hy	10	25	3	3	0	0	0	0	0	0	0	3	3				3	3	0	0	3	
	hy	<100	25	3	3	0	0	0	0	3	0	1	3	3				3	3	0	0	3	
Nickel (II) sulphate $NiSO_4$	hy		20	3	3	0	0	0	0	1	1	1	1	1					3	0			
	hy		bp	3	3	0	0	0		0		1	1	1					3	0			

Corrosion resistance

Resistance table

Medium			Concentration	Temperature	Materials																		
						Stainless steels			Nickel alloys					Copper alloys			Pure metals						
Designation Chemical formula			%	C	Non-/low- alloy steels	Ferritic steels	Austenitic steels	Austenitic + Mo	steels 2.4858 / alloy	8252.4816 / alloy 600	2.4856 / alloy 625	2.4610, 2.4819 /alloy C-4, C-276	2.4360 / alloy 400	2.0882 / alloy CuNi 70/30	Tombac	Bronze	Copper	Nickel	Titanium	Tantalum	Aluminium	Silver
Nitric acid HNO_3		1	20	3	0	0	0					0	0	1	3	3	3	0	0	0		
		1	bp	3	0	0	0					1	3					3	0			
		5	20	3	0	0	0	0	3			0	3	3			3	3	0	0	3	
		5	bp	3	1	0	0					1							0	0		
		10	bp	3	1	0	0					1	3					3	0	0		
		15	bp	3	1	0	0					3							0	0		
		25	bp	3	3	0	0					3							1	0		
		50	bp	3	3	3	1	0	3			3	3	3			3	3	1	0	3	
		65	20	3	0	0	0		0			3							0	0		
		65	bp	3	3	3	3	0	3			3	3	3			3	3	0	0	1	
		99	bp	3	3	3	3	0	3			3	3	3			3	3	0	0	3	
		20	290	3	3	3	3					3							3	0		
		40	200	3	3	3	3					3							3	0		
Nitrobenzene	hy				0	0	0	0	0	0	0	1	0	0	0	0	0	0	0		0		
$C_6H_x(NO_2)_y$																							
Nitrobenzoic acid	hy		20	1	0	0	0	0	0	0	0	0	0	0	0	0		0			0		
$C_6H_4(NO_2)COOH$																							
Nitroglycerine	hy		20	0	0	0	0														0		
$C_3H_5(ONO_2)_3$																							
Nitrogen		100	20	0		0	0		0	0	0	0	0	0	0	0	0	0	0		0	0	
N		100	900	1														3					
Nitrous acid HNO_2 similar to nitric acid																							
Oleic acid see fatty acid																							
Oleum see sulphur trioxide																							
Oxalic acid	hy	all	20	3	3	0	0	1	1	0	0	1											
$C_2H_2O_4$	hy	10	bp	3	3	3	3	0	1	0	0	1	1	1			1	3	0	0	0		
	hy	sa		3	3	3	3	1	1	1	1	1	1					3	0		3		
Oxygen			500	1	0	0	0					0				3	3				0	3	
O																							
Ozone					0	0	0	0	0	0	0	0	0				1		0		0		
Paraffin	me		20	0	0	0	0																
CnH_{2n+2}			120	0	0	0	0							0	0	0	0	0			0		

Corrosion resistance

Resistance table

Medium				Materials																				
					Stainless steels			Nickel alloys					Copper alloys			Pure metals								
Designation Chemical formula		Concentration	Temperature	Non-/low- alloy steels	Ferritic steels	Austenitic steels	Austenitic + Mo	steels 2.4858 / alloy	8252.4816 / alloy 600	2.4856 / alloy 625	2.4610, 2.4819 /alloy C-4, C-246	2.4360 / alloy 400	2.0882 / alloy CuNi 70/30	Tombac	Bronze	Copper	Nickel	Titanium	Tantalum	Aluminium	Silver
		%	C																					
Perchlorethane see hexachlorethane																								
Perchloric acid (60%) $HClO_4$		10 100	20 20	3 3	3 3	3 3	3 3											0 0			3			
Perchlorethylene C_2Cl_4	mo		20 bp	0 0 3	0 1 P	0 1 P	0 1 P							0 1	0 1	0 0	0 0				0 3			
Perhydrol see hydrogen superoxide																								
Petroleum			20 bp	0 0	0 0	0 0	0 0		0 0	0 0	0 0	0 0	0	1 1	0 0	0 0	0 3	0 0			0 0			
Petrol see benzine (benzene)																								
Phenol see carbolic acid																								
Phloroglucinol $C_6H_3(OH)_3$			20		0	0	0	0	0	0	0	0						0	0	0				
Phosgene $COCl_2$	dr		20		0	0	0	0	0	0	0	0						0	0	0				
Phosphoric acid H_3PO_4	hy hy hy hy hy hy	1 10 30 60 80 80	20 20 bp bp 20 bp	3 3 3 3 3 3	0 3 3 3 3 3	0 0 1 3 1 3	0 0 1 3 0 3	0	0 0	0 0	0 1 1 0 3	1 1	3 1	2	1 0 1	3 3 1	0 3 3	0 0 3 3 3	0 0 0 0 0	3 3				0 1
Phosphorous P	dr		20	0	0	0	0																	
Phosphorous pentachlorite PCl_5	dr	100	20	0	0	0					0					0	1							
Phtalic acid and phtalic anhydride $C_6H_4(COOH)_2$	dr		20 200 bp	0	0	0 3 0	0 0 0	0			0 0	0 0		0	0	0 0 0	0 0		0	0 0	0 0			

Corrosion resistance

Resistance table

Medium				Materials																				
					Stainless steels			Nickel alloys					Copper alloys			Pure metals								
Designation Chemical formula		Concentration	Temperature	Non-/low- alloy steels	Ferritic steels	Austenitic steels	Austenitic + Mo	steels 2.4858 / alloy	8252.4816 / alloy 600	2.4856 / alloy 625	2.4610, 2.4819 /alloy C-4, C-246	2.4360 / alloy 400	2.0882 / alloy CuNi 70/30	Tombac	Bronze	Copper	Nickel	Titanium	Tantalum	Aluminium	Silver
		%	C																					
Picric acid $C_6H_2(OH)(NO_2)_3$	hy hy me	3 cs	20 150	3 3 3	0 0 0	0 0 0	0 0 0	3	3		0	3	3	3	3	3	3	0 0 0		1 0 3	0
Plaster see calcium sulphate																								
Potash lye see potassium hydroxide																								
Potassium K	me		604 800	0		0 0	0 0				1 1							0 0	1	0 0				
Potassium acetate CH_3–COOK	me hy	100	292 20	1 1	0	0 0	0 0		0	0	0	0			1	1 1	0	0 0						
Potassium bisulphate $KHSO_4$	hy hy	5 5	20 90	3 3	3 3	2 3	0 3											0 3						
Potassium bitartrate $KC_4H_5O_6$	cs sa			3 3	3 3	0 3	0 1										0 1	0 0		0 0				
Potassium bromide KBr	hy	5	30	3	P	P	P	0	1	0	0	1	0	0		0	0	0	0	3				
Potassium carbonate K_2CO_3	hy hy	50 50	20 bp	1 3	0 3	0 0	0 0	0 0	0 0	0 0	0 0	0 0	1	3 3	1	1	0 0	0 0	0 0	3 3	0 0			
Potassium chlorate $KClO_3$	hy hy	5 sa	20	3 3	0 0	0 0	0 0	0 0	1 3	0 0	0	1 3	3 3	1	1	1 1	1 3	0 0	0	0 1				
Potassium chloride KCl	hy hy hy cs sa	10 10 30 sa	20 <bp bp	3 3 3 3 3	3 3 3 P 3	P P P P P	P P P P P	0	0	0	0 1 1 1 1	0 0	0 3	3	1	3	0	1 1 0	0					
Potassium chromate K_2CrO_4	hy hy	10 10	20 bp	0 1		0 0	0 0	0	0	0	0	1	0	0	0	0	0	0 0		0 0				
Potassium cyanide KCN	hy hy	10 10	20 bp	3 3	0 0	0 0	0 0	0	3		0	1	3 3	3	3	3 3	3		0	3 3				

Corrosion resistance

Resistance table

Medium				Materials																				
					Stainless steels			Nickel alloys					Copper alloys			Pure metals								
Designation Chemical formula		Concentration	Temperature	Non-/low- alloy steels	Ferritic steels	Austenitic steels	Austenitic + Mo	steels 2.4858 / alloy	8252.4816 / alloy 600	2.4856 / alloy 625	2.4610, 2.4819 /alloy C-4, C-276	2.4360 / alloy 400	2.0882 / alloy CuNi 70/30	Tombac	Bronze	Copper	Nickel	Titanium	Tantalum	Aluminium	Silver			
		%	C																					
Potassium dichromate $K_2Cr_2O_7$	hy hy hy	10 25 25	40 40 bp	3 3 3	0 3 3	0 0 0	0 0 0	1 1	1 1	1 1	1 1 1	1 1	0 3 3	3 3	3 3	3 3 3	1 1	0 0 0	0 0 0	0 0 0	0				
Potassium ferricyanide $K_3(Fe(CN)_6)$	hy hy hy	1 cs sa	20	0 3	0 0 0	0 0 P	1 0 0	1	0 0 0	0	0 0 0	0 0			0 0	1	0 0 0	0 0 0	0 0 0	0 0	3 3			
Potassium ferrocyanide $K_4(Fe(CN)_6)$	hy hy hy	1 25 25	20 20 bp		0 0 1	0 0 1	0 0 0	1 0 0	1 0 0	0 0 0	0 0 0	0 0 0	0 0 0		0	0	1 0 0	0 0 0	0 0 0	0 0 0	3 3			
Potassium fluoride KF	hy hy	cs sa		0 1	0 0	0 0	0 0				0 0									3				
Potassium hydroxide KOH	hy hy hy hy hy hy hy me	10 20 30 50 50 sa 100	20 bp bp 20 bp	S S S	0 0 3 0 3 3 3 3	S S S S 3 3 3 3	S S S S 3 3 3 3	1 1 1 1 1	1 1 3 1 3 3	1 1 1	1 1 1 0 1 1 3	0 0 0 0 0	0 3 3 3 0			3 3 3	0 0 0 0 0 0 0	0 0 3 0 3 3 3	3 3 3 3 3 3 3	3 3 3 3 3 3 3	0				
Potassium hypochlorite KClO	hy hy	all all	20 bp		P P	P P	P P	3 3	3 3		0 1	3 3	3 3				3 3	0 0		3 3				
Potassium iodide KJ	hy hy		20 bp	0 0	P 3	P P	P P	0 0	1 1	1 1	0 0	3 3	0 0			0 0	3 3	0 0	0 0	3 3				
Potassium nitrate KNO_3	hy hy	all all	20 bp		0 0	0 0	0 0	0	1	1	1 1	1					1	0 0		0 1				
Potassium nitrite KNO_2		all	bp	1	0	0	0	1	0	0	0	0	1	1	1	1	1							
Potassium permanganate $KMnO_4$	hy hy	10 all	20 bp	0 3	0 1	0 1	0 1	0	1	1	0 1	1 1	0 0			0	0 0	0 0	0 0	0 0	3			
Potassium persulphate $K_2S_2O_8$	hy	10	50	3	3	0	0		0		0	3		3	3	3	3	0		3	3			
Potassium silicate K_2SiO_3			20	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0		3				
Potassium sulphate K_2SO_4	hy hy	10 all	25 bp	3 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	1 0	0 0	0 0	1 0	0 0	0 0	0 1				

Corrosion resistance

Resistance table

Medium				Materials																				
					Stainless steels			Nickel alloys					Copper alloys			Pure metals								
Designation Chemical formula		Concentration	Temperature	Non-/low- alloy steels	Ferritic steels	Austenitic steels	Austenitic + Mo	steels 2.4858 / alloy	8252.4816 / alloy 600	2.4856 / alloy 625	2.4610, 2.4819 /alloy C-4, C-276	2.4360 / alloy 400	2.0882 / alloy CuNi 70/30	Tombac	Bronze	Copper	Nickel	Titanium	Tantalum	Aluminium	Silver			
		%	C																					
Protein solutions			20	1	0	0	0	0	0	0	0	0	0					0	0	0				
Pyridine C_5H_5N	dr	all all	20 bp		0 0	0 0	0 0		0	0	0	0					0	0 0		0 0				
Pyrogallol $C_6H_3(OH)_3$		all all	20 bp	3 3	0 0	0 0	0 0				0 1				0 0			0 0		0 0				
Quinine bisulphate	dr		20	3	3	3	0	0		0	0	1	0			0		0	0					
Quinine sulphate	dr		20	3	0	0	0	0		0	0	1	0		0	0		0	0					
Quinol HO–C_6H_4–OH				3		0	0	0	0	0		1					1			0				
Salicylic acid HOC_6H_4COOH	dr mo hy	100 100 cs	20 20	1 3 3	0	0 0 0	0 0 0	0 0	1 1	0 0	0 1 0	1 0 0	0			0	1 0 0	0 0	0	0 0 1				
Salmiac see ammonium chloride																								
Salpetre see potassium nitrate																								
Seawater at flow velocity v (m/s) $0 < v \leq 1.5$ $1.5 < v < 4.5$			20 20	1 1	P 0	P 0	P 0	P P	P 0	0 0	0 0	P 0	1 0	0		1 3	P 1								
Siliceous flux acid see fluorsilicic acid																								
Silver nitrate $AgNO_3$	hy hy hy hy me	10 10 20 40 100	20 bp 60 20 250	3 3 3 3 3	0 0 0 0 3	0 0 0 0 0	0 0 0 0 0	0	1	1	1 1	3	3	3	3	3	3 3	0 0 0 0	0	3				
Soap	hy hy hy	1 1 10	20 75 20	0 0 0	0 0 0	0 0 0	0 0 0		0	0		0 0	0 0	1 1	0 0	0 0	0 0 0	0 0		0 0 0				
Sodium ($O_2 \leq 0.005$ %) Na	me		200 600	0 3	0 1	0 0	0 0										0 0			1				

Corrosion resistance

Resistance table

Medium				Materials																			
					Stainless steels			Nickel alloys					Copper alloys			Pure metals							
Designation Chemical formula		Concentration	Temperature	Non-/low- alloy steels	Ferritic steels	Austenitic steels	Austenitic + Mo	steels 2.4858 / alloy	8252.4816 / alloy 600	2.4856 / alloy 625	2.4610, 2.4819 /alloy C-4, C-246	2.4360 / alloy 400	2.0882 / alloy CuNi 70/30	Tombac	Bronze	Copper	Nickel	Titanium	Tantalum	Aluminium	Silver
		%	C																				
Sodium acetate CH_3–COONa	hy hy	10 sa	25	0 3	0 0	0 0	0 0		0	0	0 0	0				0	0	0 0	0 0	0	0
Sodium aluminate Na_3AlO_3	hy	100 10	20 25	0 0	0 0	0 0	0 0				1							0 0		3	
Sodium arsenate Na_2HAsO_4	hy	cs		0	0	0	0											0		0	
Sodium bicarbonate $NaHCO_3$	hy hy cs sa	100 10 cs sa	20 20	0	0 0 0 0	0 0 0 0	0 0 0 0	0 0	1 1	1 0	1 0 1	1 1	0 0	3	1	1 0	1 1	0 0 0 0	0	0 0 1	
Sodium bisulphate $NaHSO_4$	hy hy	all all	20 bp	3 3	3 3	3 3	0 1	0 0	1 1	1 1	1 1	1 1	3 3	3 3	1 1	1 3	1 1	0 0	0 0	0 1	
Sodium bisulphite $NaHSO_3$	hy hy hy	10 50 50	20 20 bp	3 3 3	3 0 3	0 0 3	0 0 0				1 1	0 0		1 1	0 0	3 3	0 0	0 0 0		0	
Sodium borate $NaBo_3$ 4 H_2O (Borax)	hy me	cs		3	0 3	0 3	0 3	0		0	0 3	1	0			0		0	0	1	
Sodium bromide NaBr	hy hy	all all	20 bp	3 3	3 3	3 3	P P				1 1							0 0		3 3	
Sodium carbonate Na_2CO_3	hy hy hy me	1 all	20 bp 400 900	3 3 3	0 0 3 3	0 0 3 3	0 0 3 3	0 0	1 0	0 0	0 0	0 0	0 0	0		0	0 0 0	0 0 0 0	0 0	2 3	
Sodium chloride NaCl	hy hy hy hy	0.5 2 cs sa	20 20	3 3	P P P 3	P P P 3	P P P P	0 0 0 0	1 1 1 1	0 0 0 0	0 0 0 1	0 0 0 0	0 0 0 0			0 0	1 1 1 0	0 0 0 0	0 0 0 0	2 3	0 0
Sodium chlorite $NaClO_2$	dr hy hy hy	100 5 5 10	20 20 bp 80	3 3	P	P 3 3 3	0 P 3 P		0 0		1 1							0 0 0 0			
Sodium chromate Na_2CrO_4	hy	all	bp	0	0	0	0	0	0	0	0	0	0	0	0	0				0	

Corrosion resistance

Resistance table

Medium				Materials																			
					Stainless steels			Nickel alloys					Copper alloys			Pure metals							
Designation Chemical formula		Concentration	Temperature	Non-/low- alloy steels	Ferritic steels	Austenitic steels	Austenitic + Mo	steels 2.4858 / alloy	8252.4816 / alloy 600	2.4856 / alloy 625	2.4610, 2.4819 /alloy C-4, C-246	2.4360 / alloy 400	2.0882 / alloy CuNi 70/30	Tombac	Bronze	Copper	Nickel	Titanium	Tantalum	Aluminium	Silver
		%	C																				
Sodium cyanide NaCN	me hy	cs	600	1 1	0	0	0					3 3	3 1	3 3	3 3	3 3	0	0		3 3	3 3
Sodium fluoride NaF	hy hy hy	10 10 cs	20 bp	0 0		0 0 S	0 0 S								3					0 0	
Sodium hydrogensulphate see sodium bisulphate																							
Sodium hydrogensulphite see sodium bisulphite																							
Sodium hydroxide NaOH	solid hy hy hy hy hy hy hy hy hy hy hy hy hy hy	100 <10 <10 <20 <20 <40 <40 <40 <50 <50 <50 <60 <60 <60	all <60 <bp <60 <bp <60 <100 >100 <60 <100 >100 <90 <140 <140 >140	0 0 3 0 3 0 3 3 0 3 3 3 3 3	0 0 3 3 3 3 3 3 0 3 3 3 3 3	0 0 3 0 3 0 3 3 0 3 3 3 3 3	0 0 0 0 0 0 3 0 0 0 0 0 0 0		0 0 0 0 0 0 0 0 0 0 0 0 0 3	0 0 0 0 0 0 0 0 0 0 0 0 0 3	0 0 0 0 0 0 0 0 0 0 0 0 0 3	0					0 0 0 0 0 0 0 0 0 0 0 0 0 0					0
Sodium hypochlorite NaOCl	hy hy	5 10	20 50	3 3	3	3 P	P P	0	3 0		0 1	3	3			3	3	0 0		3 3	
Sodium hyposulphite $Na_2S_2O_4$		all all	20 bp		3 3	0 0	0 0	0 0	1 1	1 1	1 1	1 1	3 3			3 3	1 1		0 0		
Sodium iodide NaJ					P	P	P	0	0	0	0						0			1	
Sodium nitrate $NaNO_3$	hy hy hy hy hy me	5 10 <10 30 30	20 20 bp 20 bp 320	3 1 3 1 1 3	0 0 0 0 0 0	0 0 0 0 0 0	0 0 0 0 0 0	0 0	0 0 0 0	0 0 1	0 1 0 1 3 0	1 1 1 1 1	0 0	3	1	0 1	1 1 1 1 1 1	0 0 0 0 0 0	0 0 0 0 0 0	0 0 3 0 0 0	3 3
Sodium nitrite $NaNO_2$	hy		20			0	0	1	0	0	0	0	0			1	3	0	0	1	

Corrosion resistance

Resistance table

Medium				Materials																				
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Designation Chemical formula		Concentration	Temperature	Non-/low- alloy steels	Ferritic steels	Austenitic steels	Austenitic + Mo	steels 2.4858 / alloy	8252.4816 / alloy 600	2.4856 / alloy 625	2.4610, 2.4819 /alloy C-4, C-246	2.4360 / alloy 400	2.0882 / alloy CuNi 70/30	Tombac	Bronze	Copper	Nickel	Titanium	Tantalum	Aluminium	Silver			
		%	C																					
Sulphuric acid H_2SO_4		60 80 90 96	20 20 20 20	3 3 3 1	3 3 3 1	3 1 1 1	3 1 0 0				0 0 0 0	1 1 3	3	3 3	3 1	3 1 1	0 1	3 3 3 3	0 0 0 0	3 3 3 3					
Sulphurous acid H_2SO_3	hy hy hy	1 cs sa	20	3 3 3	3 3 3	0 0 1	0 0 0		1		0 0 1	3 3					3	1	0 0 0	1 3 3				
Sulphur trioxide SO_3	hy dr	100 100	20 20	0				2	3		0	3	2	0	0	0	3		3	3 0				
Tannic acid $C_{76}H_{52}O_{46}$	hy hy hy	5 25 50	20 100 bp	3 3 3	0 3 3	0 0 0	0 0 0		0			0	0 0	1	0	0	0	0 0 0			0			
Tar			20	0	0	0	0						0	1	0	0		0		1				
Tartaric acid	hy hy hy hy hy hy	10 10 25 25 50 50	20 bp 20 bp 20 bp	1 3 3 3 3 3	0 1 1 3 3 3	0 0 0 1 0 3	0 0 0 0 0 3	0 0	1 3 0 0	0	0 1 0 1 0 1	1 3 0 1	0 0 0 0 0	3 3	0	0 1	1 3	0 1 0 1 0 3	0 0 0 0 0	3 3 3 3 3					
Tetrachloroethane see acetylen tetrachloride																								
Tetrachloroethylene	pure pure mo mo	100 100	20 bp 20 bp	0 3 3	0 3 3	0 0 P P	0 0 P P				0 0 0		0 0 1 1	0 0 3 3	0 0 1 1	0 0 1 1	0 0 0 0	0 0 0 0		0 0 3 3				
Tin chloride $SnCl_2$; $SnCl_4$		5 sa	20	3 3	3 3	3 3	3 3	3	3		0	1	3				1	0	0	3				
Toluene C_6H_5-CH_3		100 100	20 bp	0 0	0 0	0 0	0 0					0 0	0 0	0 0	0 0	0 0	0 0	0		0 0				
Town gas				0	0	0	0	0	0	0	0	1	1	0	0	1	1							
Trichloroacetaldehyde see chloral																								
Trichloroethylene $CHCl=CCl_2$	pure pure mo mo	100 100	20 bp 20 bp	0 3 3	0 3 3	0 0 P P	0 0 P P				0 0 0		0 0 1 1	0 0 3 3	0 0 1 1	0 0 1 1	0 0 0 0	0 0 0 0		0 0 3 3				

Corrosion resistance

Resistance table

Medium				Materials																				
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Designation Chemical formula		Concentration	Temperature	Non-/low- alloy steels	Ferritic steels	Austenitic steels	Austenitic + Mo	steels 2.4858 / alloy	8252.4816 / alloy 600	2.4856 / alloy 625	2.4610, 2.4819 /alloy C-4, C-246	2.4360 / alloy 400	2.0882 / alloy CuNi 70/30	Tombac	Bronze	Copper	Nickel	Titanium	Tantalum	Aluminium	Silver			
		%	C																					
Trichloromethane see chloroform																								
Tricresylphosphate				0	0	0	0	0	0	0	0					0					0			
Trinitrophenol see picric acid																								
Trichloroacetic acid see chloroacetic acid																								
Urea $CO(NH_2)_2$		100 100	20 150	0 3	0	0 1	0 0		3		0 1	1 1					0 1	0 0	0 0	0 3	1			
Uric acid $C_5H_4O_4N_3$	hy hy		20 100	3 3	0 0	0 0	0 0	0 0	1 1	0 0	0 0	0 0	0 0			1 1		0 0		3 3				
Vinyl chloride CH_2=CHCl	dr		20 <400	0 0	0 0	0 0	0 0				0 0				0		0	0		0				
Water vapour see steam																								
Wine			20 bp	3 3	0 0	0 0	0 0		0 0					3 3	3 3		3 3		0 0	3 3				
Yeast			20	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
Yellow potassium prussiate see potassium ferricyanide																								
Zinc chloride $ZnCl_2$	hy hy hy hy hy	5 5 10 20 75	20 bp 20 20 20	3 3 3 3 3	P 3 P P 3	P 3 P P P	P 3 P P P	0 0	1 3	0	0 1	1 3 3	3 3 3				1 1 0	0 0 0 0 0	0 0 0 0 0	3 3 0				
Zinc sulphate $ZnSO_4$	hy hy hy hy hy	2 20 30 cs sa	20 bp bp	3 3 3 3 3	0 0 3 0 3	0 0 0 0 0	0 0 0 0 0	0	1	0	0 1 1 1 1	1 1	0				1	0 0 0 0 0	0 0 0 0 0	0 3 3 1 3				