

Corrosion resistance table

Stainless steels can be susceptible to certain localised corrosion mechanisms, namely crevice corrosion, pitting, intercrystalline corrosion, stress corrosion cracking and bimetallic (galvanic) corrosion. Localised corrosion is often associated with chloride ions in aqueous environments. Corrosion resistance relies on a good supply of oxygen. Higher levels of chromium, nickel, molybdenum and nitrogen increase resistance to localised corrosion.

The corrosion table is not a exact reproduction of reality, it is a first determination.

The criterion for corrosion in the case of general corrosion is expressed as weight loss by unit of time and surface area, for example grammes by square meter and per hour, or loss of thickness per unit of time, for example mm per year.

The loss of weight by unit of time and surface area is commonly used for laboratory tests, the loss of thickness per unit of time is commonly used in practice.

The general accepted practical limit within a material is considered corrosion resistant, is 0.1mm per year.

Note! Remember that corrosion is a complicated issue, depending on the combinations of materials and the fluids, the fluid temperatures, the surrounding environment and the galvanic currents in the constructions.

The corrosion table must be used with care.

Conversion Factors

Composed entity	Conversion factors		
	g/m ² h	mm / year	mills / year
g/m ² /h	1.0	8,64: s.g.	340: s.g.
g/m ² /24h	0.042	0,360: s.g.	14,2: s.g.
g/dm ² /24h	4.17	36,0: s.g.	1420: s.g.
mg/dm ² /24h	0.004	0,036: s.g.	1,42: s.g.
mg/cm ² /24h	0.417	3,60: s.g.	142: s.g.
lbs/ft ² /24h	203	1760: s.g.	69200: s.g.
lbs/ft ² /year	0.564	4,88: s.g.	192: s.g.

Corrosion resistance table

Corrosion criteria

Combined unit	Conversion factors		
	g/m ² h	mm/year	mills/year
mm/year	0,116 x s.g.	1.0	39.4
mm/month	1,39 x s.g.	12	479
mm/48h	20,80 x s.g.	180	7185
tum/year (ipy)	2,95 x s.g.	25.4	100.00
tum/month (imp)	35,3 x s.g.	305	12000
mills/year (mpy)	0,003 x s.g.	0.025	1.0
mills/month (mpm)	0,035 x s.g.	0.305	12

s.g. = Specific gravity

mills (thousandth of an inch) per year penetration

Corrosion criteria based on laboratory tests are commonly expressed in grams per square meter per hour.

For all metals this entity corresponds with approximately mm/per year (1 g/m²h = 1,1 mm/year) because the specific gravity (7.7 to 8.1) for all metal is similar.

Titanium has a specific gravity of 4.5 the entity is 1g/m²h = 1,9 mm year.

Specific gravity stainless steels and other metals

Combined unit	W.N	Specific gravity
13 Cr	1.4000	7.7
17 Cr	1.4016	7.7
18 Cr - 2 Mo	1.4521	7.7
25 - 5 - 1,5 Mo	1.4460	7.7
18 - 9	1.4301, 1.4306, 1.4311, 1.4541	7.9
17 - 12 - 2,5 Mo	1.4401, 1.4404, 1.4571, 1.4436, 1.4435, 1.4429, 1.4438	8.0
18 - 14 - 3,5 Mo	1.4438	8.0
17 - 15 - 4,5 Mo	-	8.0
20 - 25 4,5 Mo - 1,5 Cu	1.4539	8.1
Carbon steel		7.8
Titanium		4.5

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In the table on the next pages the following symbols are used meaning:

- 0 Corrosion rate less than 0.1 mm/year.
The material is corrosion proof.
- 1 Corrosion rate 0.1 - 1.0 mm/year.
The material is not corrosion proof, but useful in certain cases.
- 2 Corrosion rate over 1.0 mm/year.
Serious corrosion. The material is not usable.
- P **Risk (Severe risk)** of pitting and crevice corrosion.
- S **Risk (Severe risk)** of stress corrosion cracking.
- K Boiling solution.

All concentrations are in the percentage weight loss, the solvent is water unless differently indicated.
The information applies for annealed materials with a normal structure and a surface that is clean.

Corrosion resistance table

Medium	Chemical formula	Concentration	Temp. °C	304 cr 18 ni 9	316 cr 17 ni 12 mo 2,5
Acetone	(CH ₃) ₂ CO	1	20-K	0	0
Acetylchloride	CH ₃ COCl	100% dry	K	1	0
		wet	K	P ₁ S	P ₀ S
Alum	KAL(SO ₄) ₂	2.5%	90	0	0
		2.5%	K	1	0
		5.5%	20-90	0	0
		5.5%	K	1	1
		10%	20	0	0
		10%	50	0	0
		10%	80	1	0
		10%	K	1	1
		15%	50	0	0
		15%	K	2	2
		saturated	K	2	2
Aluminium melted	AL	-	700	2	2
Aluminium acetate	Al (OOCCH ₃) ₃	saturated	K	0	0
Aluminiumchloride	ALCL ₃	5%	50	P ₀ S	P ₀ S
		5%	100	P ₂ S	P ₂ S
		10%	100	2	2
		10%	150	2	2
		20%	100	2	2
		20%	150	2	2
		25%	20	2	2
		25%	60	2	2
		27.5%	110	2	2
Aluminium nitrate	AL(NO ₃) ₃	all conc.	20	0	0
Aluminium sulphate	AL ₂ (SO ₄) ₃	0.50%	50	0	0
		1%	20	0	0
		2.30%	101=K	2	0
		5%	101=K	2	0
		10%	20	0	0
		10%	50	0	0
		10%	102=K	2	1
		23%	20	2	0
		23%	100	2	1
		27%	20	2	0
27%	102=K	2	1		
		saturated by 20°C	105=K	2	2
Ammonium	NH ₄ OH	all conc.	20-K	0	0
Ammonium bifluoride	NH ₄ HF ₂	10%	25	2	1
Ammonium bicarbonate	(NH ₄)HCO ₃	all conc.	20	0	0

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Medium	Chemical formula	Concentration	Temp. °C	304 cr 18 ni 9	316 cr 17 ni 12 mo 2,5	
Ammonium chloride	NH ₄ CL	1%	20	P ₀	P ₀	
		1%	100	P ₀ S	P ₀ S	
		5%	K	P ₀ S	P ₀ S	
		10%	20-50	P ₀	P ₀	
		10%	90-100	P ₀ S	P ₀ S	
		10%	K	P ₁ S	P ₀ S	
		10%	135	P ₁ S	P ₀ S	
		20%	20-50	P ₀	P ₀	
		20%	90	P ₁ S	P ₀ S	
		20%	K	P ₁ S	P ₁ S	
Ammonium carbonate	(NH ₄) ₂ CO ₃ ·H ₂ O	all conc.	20	0	0	
			100	0	0	
Ammonium nitrate	NH ₄ NO ₃ + (NH ₄) ₂ SO ₄ in elke verhouding	100	60	0	0	
			120	1	0	
Ammonium oxalate	(NH ₄) ₂ C ₂ O ₄	1-8%	20	0	0	
			5-20%	100	1	0
Ammoniumperchlorate	NH ₄ ClO ₄	10%	20	0	0	
			K	0	0	
			30	0	0	
			K	P ₀ S	P ₀ S	
			30	P ₀	P ₀	
Ammonium sulphate	(NH ₄) ₂ SO ₄	all conc.	20-K	0	0	
Ammonium sulphite	(NH ₄) ₂ SO ₃	saturated	20-K	0	0	
Aniline unrefined	C ₆ H ₅ NH ₂	100%	20	0	0	
Aniline hydrochloride	C ₆ H ₅ NH ₂ HCl	all conc.	20	P ₂	P ₂	
			5%	100	P ₂ S	P ₂ S
Anitimonium, melted	Sb	-	650	2	2	
Acetic acid	CH ₃ COOH	1%	90	0	0	
			100K	0	0	
			20	0	0	
			50	0	0	
			75	0	0	
			5%	100=K	0	0
			20	0	0	
			75	0	0	
			10%	100=K	1	0
			20	0	0	
			20%	80	0	0
20%	90	1	0			

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Medium	Chemical formula	Concentration	Temp. °C	304 cr 18 ni 9	316 cr 17 ni 12 mo 2,5
Acetic acid	CH ₃ COOH	20%	100=K	2	0
		50%	20	0	0
		50%	80	0	0
		50%	90	1	0
		50%	100	2	0
		80%	20	0	0
		80%	40	0	0
		80%	85	1	0
		99.5%	200	2	1
		100%	20	0	0
		100%	80	0	0
Bariumchloride	BaCl ₂ ·2H ₂ O	6%	100	P ₀ S	P ₀ S
		23%	100	P ₀ S	P ₀ S
			melted	2	2
Petrol		-	20-K	0	0
Beer yeast		-	20-K	0	0
Borax: in solution melted	Na ₂ B ₄ O ₇ ·10H ₂ O	all conc.	20-K	0	0
			melted	2	2
Blood			20	0	0
			37		P ₀
Boric acid	B(OH) ₃	all conc.	K	0	0
			K	0	0
Bromine moist	Br ₂	100%	20	2	2
Aqueous solution of bromine		0.03%	20	P ₀	P ₀
		0.30%	20	P ₁	P ₀
Butyric acid	C ₃ H ₇ COOH	100%	20	0	1
		100%	K	1	0
Calciumbisulphite	Ca(HSO ₃) ₂	10%	20	0	0
		10%	K	1	0
Calciumchloride	CaCl ₂ ·6H ₂ O	cold saturated			
Calciumhypochloride	Ca(ClO) ₂	1%	20	P ₁	P ₀
		2%	100	P ₁ S	P ₁ S
		6%	20	P ₁	P ₁
		6%	100	P ₂ S	P ₁ S
Calcium sulphate	CaSO ₄	all conc.	100	0	0
Chloride	CL ₂	dry gas	70	0	0
		100%	20-60	P ₂	P ₂
		moist gas	60-100	P ₂ S	P ₂ S

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Chlorobezene	C ₆ H ₅ Cl	100%	20%	0	0
		100%	132-K	0	0
		with moisture		P ₀ S	P ₀ S
Chloroacetic Acid (mono)	CH ₂ ClCOOH	30%	80	2	2
		50%	20	2	2
		100%	100	2	2
		100%	100	2	2
Chloride of lime ,dry moist	CaOCl ₂	0.8%	20	P ₁	P ₀
		1%	K		P ₀ S
		20%	35		P ₀
		30%	20	1	1
Chloroform	CHCl ₃	all conc.	20	P ₀	P ₀
		-	K	P ₀ S	P ₀ S
		dry 100%	62=K	0	0
Sulphur chloride	S ₂ Cl ₂	dry 100%	20	0	0
		dry 100%	136=K	0	0
		nat	20	P ₁	P ₁
Chloric acid	HClO ₃	10%	20	-	-
		100%	20	P ₂	P ₂
Hydrogen chloride, gas dry	HCl	dry	20-40	0	0
			100	1	1
			250	1	1
			400-500	2	2
Chromic acid pure, H ₂ SO ₄ free	CrO ₃	2%	75	0	0
		2%	100=K	2	2
		5%	80	0	0
		5%	100=K	1	2
		10%	40	0	0
		10%	K	2	2
		20%	20	0	0
		20%	50	1	1
		20%	K	2	2
		40%	20	1	1
		40%	40	2	2
50%	20	2	2		

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Medium	Chemical formula	Concentration	Temp. °C	304 cr 18 ni 9	316 cr 17 ni 12 mo 2,5
Citric acid	$C_3H_4(OH)(COOH)_3$	1%	20	0	0
		1%	K	0	0
		5%	20-50	0	0
		5%	85-K	0	0
		5%	140	1	0
		10%	20-40	0	0
		10%	85-K	0	0
		25%	20	0	0
		25%	40	0	0
		25%	85	1	0
		25%	100	2	0
		25%	K	2	0
		50%	20	0	0
		50%	40	0	1
		50%	100	2	0
50%	K	2	0		
70%	K	2	0		
Hydrocyanic acid	HCN	100%	20	0	0
Dichloroethylene	$C_2H_2Cl_2$	100%	20-K	0	0
		wet		P ₀ S	P ₀ S
Ethyl chloride	C_2H_5Cl	wet	20-K	0	0
				P ₀ S	P ₀ S
Ethyl alcohol	C_2H_5OH	all conc.	20-K	0	0
Ethyl ether	$(C_2H_5)_2O$	-	20-K	0	0
Ethyl chloride	$C_2H_4Cl_2$	100%	20-K	0	0
Hyposulphite	$Na_2S_2O_3+K_2S_2O_4$	40%, 2,5%	20	P ₀	0
Hyposulphite + Sulphuric acid	$Na_2S_2O_3+Na_2SO_3+H_2SO_4$	19%, 4,7% -0.50%	20	P ₀	0
Hydrogen fluoride	HF	1%	20	1	0
		10%	20	2	2
		75%	20	2	2
		100%	20	1	1
Formaldehyde	HCHO	all conc.	20-K	0	0
Gallic acid	$C_6H_2(OH)_3COOH$	conc. 25%			
		saturated op 100°C	K	0	0
Glycerine	$C_3H_5(OH)_3$	all conc.	20	0	0

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Medium	Chemical formula	Concentration	Temp. °C	304 cr 18 ni 9	316 cr 17 ni 12 mo 2,5
Iodine, dry moist	I ₂	dry	20	0	0
		moist	20	P ₂	P ₂
		water solution 1%	20	P ₀	P ₀
		water solution 2% + 1% KI	20	P ₀	P ₀
Idioform, liquefied vaporous	CH ₃ I	crystal	20	P ₀	P ₀
		damp	50	P ₀	P ₀
Potassium dichromate	K ₂ Cr ₂ O ₇	20%	90	0	0
		25%	20	0	0
		25%	K	0	0
Potassium bifluoride	KHF ₂	cold saturated			
Potassium bitartrate	KH(OOC(OH)CH ₂) ₂	saturated bij 100°C	K	1	0
Potassium bromide	KBr	all conc.	20	P ₀	P ₀
Potassium chlorate	KClO ₃	7-10%	50	0	0
		10%	100	0	0
		36%	K	1	0
		met Cl			PS
Potassium chlorate	KClO ₃	all conc.		P	P
Potassium cyanide	KCNO				
Potassium cyanide	KCN	all conc.	20	0	0
			K		0
Potassium ferricyanide	K ₃ (Fe(CN) ₆)	all conc.	20	0	0
			K	0	0
Potassium hydroxide	KOH	10%	K	0	0
		20%	20	0	0
		25%	K	0	0
		50%	20	0	0
		50%	K	1S	1S
		70%	120	1S	1S
2S	300-365	2S	2S		
Potassium hypochlorite until 20 g as cl/liter	KClO	<2%	20	P ₁	P ₀
		>20%	20	P ₂	P ₁
Kaliumjodide	KI	all conc.	K	P ₀	P ₀
Potassium carbonate	K ₂ CO ₃	all conc.	K	0	0
			900-1000	2	2
Potassium nitrate	KNO ₃	all conc.	20-K	0	0
			550	0	0
			780	1	1
Potassium oxalate	(C OOK) ₂ x H ₂ O		20	0	0
			K	0	0

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Medium	Chemical formula	Concentration	Temp. °C	304 cr 18 ni 9	316 cr 17 ni 12 mo 2,5
Potassium permanganate	KMnO ₄	5-10%	20	0	0
		10%	K	0	0
Potassium sulphate	K ₂ SO ₄	all conc.	K	0	0
Silicic acid	HF	1%	20	1	0
		10%	20	2	2
		75%	30	2	2
		100%	20	1	1
Nitrohydrochloric acid	HCl+HNO ₃			2	2
Copper acetate	Cu(CH ₃ COO) ₂	all conc.	K	0	0
Copper chloride	CuCl ₂	0.05%	100=K	P ₀	P ₀
Copper cyanide	Cu(CN) ₂	saturated at 100°C	K	0	0
Copper nitrate	Cu(NO ₃) ₂	all conc.	20-K	0	0
Copper sulphate	CuSO ₄	all conc.	20-K	0	0
Kwik	Hg	-	20-400	0	0
Mercuric chloride	HgCl ₂	0.1%	20	P ₁	P ₀
		0.1%	K	P ₁ S	P ₀ S
		0.7%	20	P ₁	P ₀
		0.7%	K	P ₂ S	P ₂ S
		1-10%	100		
		1-10%	135		
Mercuric cyanide	Hg(CN) ₂	5%	20	0	0
Mercuric nitrate	Hg(NO ₃) ₂	5%	20	0	0
Lead, melted	Pb	melted	400	1	0
			900	2	2
Lead acetate	(CH ₃ COO) ₂ Pb·3H ₂ O	all concentrations	20-90	0	0
			K	0	0
Lead acetate, basic	Pb(CH ₃ COO) ₂				
	Pb(OH) ₂				
Lead nitrate	Pb(NO ₃) ₂	all conc.	K	0	0
Lysol		2%	20	0	0
		conc.	20-K	0	0
Manganese chloride	MgCl ₂	2.50%	20	P ₀	P ₀
		5%	K	P ₀ S	P ₀ S
Manganese sulphate	MgSO ₄	5%	20	0	0
		5%	60	0	0
		10%	20	0	0
		10%	60	0	0
		20%	2	0	0
		20%	K	0	0
		26%	K	0	0

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Medium	Chemical formula	Concentration	Temp. °C	304 cr 18 ni 9	316 cr 17 ni 12 mo 2,5
Mangaan chloruur	MnCl ₂	5%	100	P ₀ S	P ₀ S
		10%	K	P ₀ S	P ₀ S
		10%	135	P ₀ S	P ₀ S
		20%	100	P ₁ S	P ₀ S
		50%	K	P ₁ S	P ₀ S
Manganese sulphate	MnSO ₄	alle conc.	20	0	0
		23%	K	0	0
Methyl alcohol	CH ₃ OH	100%	65-K	0	0
Methyl chloride	CH ₃ Cl	droog 100%	20	0	0
Milk		Fresh	20	0	0
			K	0	0
			sour	20	0
Lactic acid + sulphuric acid	(C ₂ H ₄ COH)COOH + H ₂ SO ₄	10-50%	K	2	2
		25%			
Mustard			20	P ₀	P ₀
Sodium carbonate	NaHCO ₃	all conc.	20-100	0	0
Sodium bisulphate	NaHSO ₄	1%	85	1	0
		2%	20	0	0
		2%	85	1	0
		4%	20	1	0
		4%	K	2	0
		5%	20	1	0
		5%	85	2	0
		10%	20	1	0
		10%	50	2	0
		10%	K	2	1
15%	85	2	2		
Sodium bisulphate	NaHSO ₃	10%	20	0	0
		10%	K	1	0
Natriumchloraat	NaClO ₃	10-20%	K	0	0
		30%	20	0	0
		30%	K	1	0
Sodium fluoride	NaF	5-10%	20-100	0	0
Sodium hydroxyde	NaOH	10%	20	0	0
		10%	90	0	0
		10%	103=K	0	0
		20%	20	0	0
		20%	90	0	0
		25%	20	0	0
		25%	112=K	0	0
30%	20	0	0		

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Sodium hydroxyde	NaOH	30%	100	0	0
		30%	116=K	1S	0S
		40%	80	0	0
		40%	90	0	0
		40%	100	1	1
		40%	128=K	1S	1S
		50%	60	0	0
		50%	90	1	1
		50%	100	1	1
		50%	120	1	1
		50%	140=K	1S	1S
		60%	90	1	1
		60%	120	1	1
		60%	160=K	2S	2S
		70%	90	1	1
		70%	130	1	1
70%	180=K	2S	2S		
90%	300	2S	1S		
		melted	320	2S	2S
Sodium hypochlorite	NaClO	5%	20	P ₁	P ₁
		5%	K	P ₁ S	P ₁ S
Sodium carbonate	Na ₂ CO ₃	all conc.	20-K	0	0
		melted	900	2	2
sodium nitrate	NaNO ₃	all conc.	20-K	0	0
		melted	360	0	0
Sodium nitrite	NaNO ₂	alle conc.	K	0	0
Sodium perchlotae	NaClO ₄	10%	K	0	0
Sodium phosphate	Na ₃ PO ₄	all conc.	K	0	0
Sodium sulphate	NaSO ₄	all conc.	20	0	0
Sodium sulphade	Na ₂ S	5%	K	0	0
		10%	20	0	0
		10-50%	K	0	0
Sodium sulphite	Na ₂ SO ₃	50%	20	0	0
		50%	K	0	0
Sdodium thiosulphate	Na ₂ S ₂ O ₃	50%	20	0	0
		50%	K	0	0
Nickel chloride	NiCl ₂	10%	20	P ₀	P ₀
		10%	100	P ₀ S	P ₀ S
Nickel nitrate	Ni(NO ₃) ₂	5-10%	K	0	0
Nickel sulphate	NiSO ₄	all conc.	K	0	0
Mineral oil			K	0	0

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Medium	Chemical formula	Concentration	Temp. °C	304 cr 18 ni 9	316 cr 17 ni 12 mo 2,5
Oil (spice oil)			K	0	0
Oxalic acid		10%	25	0	0
		10%	50	0	0
		10%	60	1	0
		10%	80	2	1
		10%	101=K	2	1
		25%	60	2	0
		25%	75	2	1
		25%	103=K	2	2
		40%	75	2	1
Paraffin, melted		-	20-100	0	0
Petrol		-	20-K	0	0
Phenol	C ₆ H ₅ OH	all conc.	20-50	0	0
		70-100%	K	1	0
Phosphoric acid	H ₃ PO ₄	1%	20	0	0
		1%	100=K	0	0
		1%	140	0	0
		3%	100=K	0	0
		5%	20-60	0	0
		5%	85	0	0
		5%	100=K	0	0
		10%	40	0	0
		10%	60	0	0
		10%	80	0	0
		10%	101=K	0	0
		20%	35	0	0
		20%	60	0	0
		20%	102=K	0	0
		30%	20-35	0	0
		30%	60	0	0
		30%	100	1	0
		40%	35	0	0
		40%	50	0	0
		40%	100	1	0
40%	106=K	2	1		
50%	20	0	0		
50%	35	0	0		
50%	50	0	0		
50%	85	0	0		
50%	100	1	1		

Corrosion resistance table

Medium	Chemical formula	Concentration	Temp. °C	304 cr 18 ni 9	316 cr 17 ni 12 mo 2,5
Phosphoric acid	H ₃ PO ₄	50%	110=K	2	2
		60%	20	0	0
		60%	35	0	0
		60%	100	2	1
		60%	116=K	2	2
		70%	35	0	0
		70%	90	2	1
		70%	126=K	2	2
		80%	20	0	0
		80%	35	0	0
		80%	80	1	0
		80%	100	2	1
		80%	146=K	2	2
		85%	20	0	0
		85%	50	0	0
85%	95	2	1		
85%	156=K	2	2		
Phosphorus pentoxide dry and moist	P ₂ O ₅	droog	20	0	0
		vochtig	20	1	0
		alle conc.	20	0	0
Nitric acid	HNO ₃	0.5%	250	0	0
		1%	20	0	0
		1%	50	0	0
		1%	100=K	0	0
		5%	20	0	0
		5%	50	0	0
		5%	100=K	0	0
		5%	150	1	1
		5%	290	2	2
		10%	20	0	0
		10%	50	0	0
		10%	101=K	0	0
		10%	145	2	2
		20%	20	0	0
		20%	50	0	0
		20%	103=K	0	0
		20%	120	1	1
30%	20	0	0		
30%	70	0	0		
30%	106=K	0	0		

Corrosion resistance table

Medium	Chemical formula	Concentration	Temp. °C	304 cr 18 ni 9	316 cr 17 ni 12 mo 2,5
Nitric acid	HNO ₃	30%	120	1	1
		50%	20	0	0
		50%	70	0	0
		50%	90	0	0
		50%	110	1	1
		50%	117=K	1	1
		60%	20	0	0
		60%	60	0	0
		60%	100	1	1
		60%	121=K	1	1
		65%	20	0	0
		65%	60	0	0
		65%	70	0	0
		65%	90	1	1
		65%	121=K	1	1
		65%	175		
		80%	20	0	0
		80%	50	0	0
		80%	80	1	1
		80%	106=K	2	1
90%	20	0	0		
90%	80	2	2		
90%	94=K	2	2		
94%	30	0	0		
97%	25	0	0		
99%	25	1	1		
99%	40	2	2		
99%	84=K	2	2		
Nitrous acid	HNO ₂	all conc.	20	0	0
Tin, melted	Sn	melted	300	0	0
			350		
			400	1	1
			500-700	2	2
Stannous (II) chloride	SnCl ₂	5-24%	20	P ₂	P ₁
		18-24%	K	P ₂	P ₂
Toluene	C ₆ H ₅ CH ₃	100%	K	0	0
Trichloroethylene (technical grade)	C ₂ HCl ₃	100%	20	0	0
Urine	-	-	0-60	P ₀	P ₀
Urea	CO(NH ₂) ₂	-	180	0	0

Corrosion resistance table

Medium	Chemical formula	Concentration	Temp. °C	304 cr 18 ni 9	316 cr 17 ni 12 mo 2,5
Fatty acid, oil acid Stearic acid		100%	20	0	0
		100%	80-130	0	0
		100%	150	0	0
		100%	180	1	0
		100%	235	1	0
		100%	300	2	0
Hydrogen peroxide	H ₂ O ₂	1-2%	50	0	0
		5%	20	0	0
		5%	40-50	0	0
		10%	23	0	0
		10%	40	0	0
		10%	60-80	0	0
		15%	22	0	0
		15%	30-40	0	0
		15%	50-80	0	0
		30%	27	0	0
		30%	40-80	0	0
		50%	40	0	0
		Fruit juices, Wines			-
Wine vinegar		4-5%	20	0	0
Tartaric acid	C ₂ H ₂ (OH) ₂ (COOH) ₂	1%	90	0	0
		1%	100=K	0	0
		20%	70	0	0
		20%	100	1	0
		30%	60	0	0
		30%	90	1	0
		30%	102=K	1	0
		50%	50	0	0
		50%	70	0	0
		50%	90	1	0
		50%	106=K	2	1
		60%	80	1	0
		60%	100	2	1
		70%	114=K	2	1
75%	100	2	1		
75%	118=K	2	1		
Iron (III) chloride (ferric chloride)	FeCl ₃	0,5-50%	20-100	P ₂	P ₂
Iron (III) nitrate (ferric nitrate)	Fe(NO ₃) ₃	all conc.	20	0	0
Iron (III) sulphate (ferric sulphate)	Fe ₂ (SO ₄) ₃	10%	20-K	0	0
Xylene	C ₆ H ₄ (CH ₃) ₂	all conc.	K	0	0

Corrosion resistance table

Medium	Chemical formula	Concentration	Temp. °C	304 cr 18 ni 9	316 cr 17 ni 12 mo 2,5
Silver nitrate	AgNO ₃	all conc.	20-K	0	0
		melted	250	0	0
Hydrochloric acid	HCl	0.1%	20-50	P ₁	P ₀
		0.1%	100=K	P ₁ S	P ₀ S
		0.2%	20	P ₁	P ₀
		0.2%	50	P ₁	P ₀
		0.2%	130		
		0.5%	20	P ₁	P ₀
		0.5%	50	P ₁	P ₀
		0.5%	100=K	2	2
		1%	20	P ₁	P ₀
		1%	50	2	P ₁
		1%	60	2	2
		1%	80	2	2
		1%	100=K	2	2
		2%	20	2	P ₁
		2%	60	2	2
		2%	100=K	2	2
		3%	20	2	P ₁
		3%	60	2	2
		3%	70	2	2
		3%	80	2	2
		3%	100	2	2
		3%	101=K	2	2
		5%	20-70	2	2
5%	102=K	2	2		
8%	60	2	2		
10%	20-35	2	2		
10%	60	2	2		
20%	20-35	2	2		
30-37%	20	2	2		
Sulphur	S	melted	240	0	0
		melted	445=K	2	1
		boiling	570	2	2
Sulphur chloride	S ₂ Cl ₂	dry 100%	20	0	0
		dry 100%	136=k	0	0
		moist	20	P ₁	P ₁

Corrosion resistance table

Medium	Chemical formula	Concentration	Temp. °C	304	cr 18 ni 9	316	cr 17 ni 12 mo 2,5
Sulphuric acid	H ₂ SO ₄	0.1%	100	2		1	
		0.5%	20	0		0	
		0.5%	50	1		0	
		0.5%	100	2		1	
		1%	20	0		0	
		1%	50	1		0	
		1%	70	1		0	
		1%	85	2		1	
		1%	100	2		1	
		2%	20	0		0	
		2%	50	1		0	
		2%	60	1		0	
		3%	20	0		0	
		3%	35	1		0	
		3%	50	1		0	
		3%	85	2		1	
		3%	100	2		2	
		5%	20	1		0	
		5%	35	1		0	
		5%	60	2		1	
		5%	75	2		1	
		5%	85	2		2	
		5%	101=K	2		2	
		10%	0	2		0	
		10%	50	2		1	
		10%	60	2		1	
		10%	80	2		2	
		10%	102=K	2		2	
		20%	20	2		0	
		20%	40	2		1	
		20%	50	2		1	
		20%	60	2		2	
		20%	100	2		2	
30%	20	2		1			
30%	40	2		2			
30%	60	2		2			
40%	20	2		2			
40%	40	2		2			
40%	60	2		2			
40%	90	2		2			
50%	20	2		2			

Corrosion resistance table

Medium	Chemical formula	Concentration	Temp. °C	304 cr 18 ni 9	316 cr 17 ni 12 mo 2,5
Sulphuric acid	H ₂ SO ₄	50%	40	2	2
		50%	70	2	2
		60%	20	2	2
		60%	40	2	2
		60%	70	2	2
		70%	20	2	2
		70%	40	2	2
		70%	70	2	2
		80%	20	2	1
		80%	40	2	2
		80%	60	2	2
		85%	20	1	1
		85%	30	1	1
		85%	40	1	1
		85%	50	2	2
		90%	20	0	0
		90%	30	0	0
		90%	40	2	1
		90%	70	2	2
		94%	20	0	0
		94%	30	0	0
		94%	40	1	0
		94%	50	1	1
		96%	20	0	0
		96%	30	0	0
		96%	40	0	0
		96%	50	1	1
98%	30	0	0		
98%	40	0	0		
98%	50	2	0		
98%	80	2	2		
100%	70	0	0		
Hydrogensulphide	H ₂ S	dry gas	100	0	0
		4%	200	0	0
		moist gas	20	P ₁ S	0

Corrosion resistance table

Medium	Chemical formula	Concentration	Temp. °C	304 cr 18 ni 9	316 cr 17 ni 12 mo 2,5
Sulphurous acid (SO ₂ dissolved in water)	H ₂ SO ₃	2% SO ₂	50	0	0
		5% SO ₂	20		0
		10% SO ₂	160	1	0
		20% SO ₂	20	1	0
		saturated with SO ₂	20	1	0
		saturated with SO ₂	135	1	0
		saturated with SO ₂	200	2	1
Sulphur dioxide	SO ₂	dry gas	100	0	0
		100%			
		dry gas			
		liquid	25	0	0
		100%			
		moist gas	20	1	0
	oxygen free	100	1	0	