



Chemical Compatibility

Table 6

process	Cu alloy	carbon steel	st. st. AISI-316	PTFE	nickel 200	monel 400	Hastelloy C276	tantalum	titanium
abiatic acid	l	l	g	g	g	g	g	g	g
acetanilide	g	g	g	g	g	g	g	g	g
acetic acid	n	l	l	g	n	l	l	g	g
acetic aldehyde	g	l	g	g	g	g	g	g	g
acetonacetic ester		l	g	g	g	g	g	g	g
acetocyanhydrine		l			g	g	g	g	g
acetone	g	g	g	g	g	g	g	g	g
acetophenetidine	g	n	g	g	g	g	g	g	g
acetophenone	g	g	g	g	g	g	g	g	g
acetylacetone			g		g	g	g	g	g
acetylcellulose	l	n	g	g	g	g	g	g	g
acetylchloride	n	l	l	l	g	g	g	g	
acetylene	g	g	g	g	g	g	g	g	g
acetylsalicylic acid		n	g	g	g	g	g	g	g
acetylthiopropene		l	g				g	g	
acid blends	n	l	l	g	n	n	n	g	l
acid pit water		g		n	n				
acid sodium sulphate	g	g							
acridine		g	g				g	g	
acrolie	g	g	g	g	l	l	g	g	g
acylic acid ethylester				g					
acrylic silicate	g	g	g	g	g	g	g		
acrylonitrile	g	g	g	g	g	g	g	g	g
adipic acid		g	g	g	g	g	g	g	
aktivin			g						
alcane sulphonic acid	n	n	g	g		l	g	g	
alcoholic beverages	g	n	g	g	g	g	g	g	g
alizarine		g	g	g	g	g	g	g	
alkyd resins	g	l	g	g	g	g	g	g	g
alkylaryl sulfonat	g	g	g	g	g	g	g	g	g
alkylation		g	g		g	g			
alkylchloride ether		l			l	l	g	g	
alkylphthaline sulfonic acid		l					g	g	g
allyl amine	n	g	g	g				g	
allyl chloride	g	g	g	l	g	g	g	g	
allyl sulphide	l	g	g						
allylic alcohol	l	g	g	g	g	g	g	g	g
aloe		n	g		g	g	g	g	
alum acetate		n	g		g	g	g	g	g
alum alkyle		g	g		g	g	g		
alum chlorate			g	g	g	g	g	g	
alum chloride	n	l	l	g	l	l	g	g	l
alum ethylate		g	g		g	g	g	g	
alum fluoride		l		g	g	g	g		
alum formiate		l	g	g	g	g	g	g	g
alum melts	n	g	n	n	n	n			
alum nitrate		n	g	g	g	g	g	g	g
alum hydroxide	g	g	g	g	g	g	g	g	g
alum salts				g					
alum silicofluoride	g	n	g		g	g	g		
alum slufate	n	n	l	g	n	l	g	g	g

process	Cu alloy	carbon steel	st. st. AISI-316	PTFE	nickel 200	monel 400	Hastelloy C276	tantalum	titanium
amines / amination	n	l	g	g	g	g	g	g	g
amino acid blends		n	g		g	g	g	g	g
2-amino anthrachino		g	g		g	g	g		
P-amino benzene		l		g	l		g	g	
M-amino benzene sulf. acid		g	g	g	g	g	g	g	g
P-amino benzene sulf. acid		g	g	g	g	g	g	g	g
amino benzoic acid		g	g	g	g	g	g	g	g
5-amino / 2 oxybenzoic acid		g	g	g	g	g	g	g	g
M-aminophenole		g	g		g	g	g	g	g
C-aminophenole		g	g		g	g	g	g	g
aminoplastics	g	l	g	g	g	g	g	g	g
2-aminopydrine	l	l	g		g	g	g		
P-aminosalicyclic acid		l	g	g	g	g	g	g	g
ammonium hydroxide	l	g	g	g	l	l	g	l	g
ammonium acetate		l	g		g	g	g		
ammonium alum			l						
ammonium bicarbonat	n	g	g	g	n	n			
ammonium bromide		l	g	g	g	g	g	g	g
ammonium carbonate			g						
ammonium chloride	n	l	g	g	g	g	g	g	g
ammonium citrate		l	g	g	g	g	g	g	g
ammonium difluoride			g		l	l			
ammonium diphosphate	l	l	g	g	g	g	g	g	g
ammonium disulfite		l	g	g	g	g	g	g	g
ammonium fluoride	l	l	l	l	l	l			
ammonium fluorsilicate		l	g		g	g	g		
ammonium formiate		l	g	g	g	g	g	g	g
ammonium molybdate		g	g	g					
ammonium monophosphate	l	l	g	g	g	g	g	g	g
ammonium nitrate	n	l	g	g	n	n	g	g	g
ammonium oxalate		l	g		g	g		g	
ammonium perchlorate		l	g				g	g	
ammonium persulphate	n	n	l		g	n		g	
ammonium phosphate				g	l	l		g	
ammonium picrate		l	g		g	g	g	g	
ammonium rhodanide	n	l	g	g	g	g	g		
ammonium sulphaminat	g	g	g	g	g	g	g	g	g
ammonium sulfate	n	l	g	g	g	g	g	g	g
ammonium sulfide	n	l	g	g	g	g	g		
ammonium sulfite		l	g	g	n	n	l	g	
amyl acetate	g	l	g	l	g	g	g	g	g
amyl alcohol	g	l	g	g	g	g	g	g	g
amyl amine	n	l	g	g	g	g	g		
amyl borate				g					
amyl chloride	g	l	l		g	l	g	g	
amyl laurate	g	g	g	g	g	g	g	g	g
amyl mercaptane		l	g		g	g	g		
amyl nitrate		g	g						
amyl nitrite		g	g						
P-amyl propionate	g	l	g		g	g	g	g	g
aniline	l	l	g	g	l	l	l	g	g

key to resistance ratings : g = good; l = limited; n = not; blank = no data currently available

Chemical Compatibility

Table 6

process	Cu alloy	carbon steel	st. st. AISI-316	PTFE	nickel 200	monel 400	Hastelloy C276	tantalum	titanium
aniline black	g	l	g	g	g	g	g		
aniline hydrochloride	n	n		g	n	n	g		
aniline sulphate		n	g	g	g	g	g		
aniline sulphite	l	l	g	g			g		
anis aldehyde	g	l	g	g	g	g	g	g	g
anisidine	g	l	g	g	g	g	g	g	g
anis oil	g	l	g	g	g	g	g	g	g
anisol	g	g	g	g	g	g	g	g	g
anthracene oil	g	g	g	g	g	g	g	g	g
antimony chloride		n	n		g	g	g	g	
antimony melt			n	n					
anthraquinone	g	g	g		g	g	g	g	
anrachininesulfone acides		l	g	g	g	g	g	g	g
apple juice / pulp	n	n	g	g	g	g	g		
aqua regia	n	n	n	g	n	n	n	g	g
aquasal sol.				g					
arachic acid	l	l	g	g	g	g	g	g	
aralene		l	g	g	g	g	g	g	g
argon	g	g	g	g	g	g	g	g	g
arsenic		l	g		l				
arsenic acid / pentoxide	l	l	g	g	l	l	g	g	
arsenious acid	n	n	g	g	g	g	g	g	
arsenious chloride	n	l			g	g	g	g	
arsenic trioxide		g	g	g	g	g	g		
asordine				g					
aspartic acid	n	g	g	g			g	g	
asphalt	l	l	g		g	g	g		
ASTM oil 1/2/3				g					
air / atmosphere	g	l	g	g	g	g	g	g	g
azobenzene	g	g	g	g	g	g	g	g	g
azo yellow	l	n	g						
bacitracine		n	g					g	
baking powder	l	l	g	g	g	g	g	g	g
barium carbonate	g	l	g	g					
barium chlorate	g	l	g	g	g	g	g	g	
barium chloride	n	l	g	g	l	l	g	g	g
barium cyanide	n	g	g	g	g	n	n		
barium hydroxide	g	g	g	g	g	g	g	g	
barium nitrate	l	l	g	g	g		g		
barium oxide		l	g			g	g		
barium peroxide	n	l	l	g	l	l	n		
barium salt				g					
barium sulphate	g	g	g	g	g	g	g	g	g
barium sulphide (poly)	l	l	g	g	l	g	n		
basleum FG (TM)				g					
batoxin (TM)				g					
battery acid									
beer	g	g	g	g	g	g	g	g	g
wax (bees')	g	l	g	g	g	g	g	g	g
beer wort	g	g	g	g	g	g	g	g	g
benzaldehyde	l	l	g	g	l	l	g	g	

process	Cu alloy	carbon steel	st. st. AISI-316	PTFE	nickel 200	monel 400	Hastelloy C276	tantalum	titanium
benzaldehyde disulf. acid		g	g	g	g	g	g	g	
benzamide	n	l	g	g	g	g	g	g	g
benzanthrene	g	g	g	g	g	g	g	g	g
benzine	g	l	g	g	g	g	g	g	g
benzene	l	l	g	g	g	g	g	g	g
benzene 1/3 disulf. acid		l	g			g	g	g	
benzene peroxide			g		g	g	g		
benzene sulfonic acid		l	g	g	l	g	g	g	
benzidine	g	g	g	g	g	g	g	g	g
benzidine 2.2 disulf. acid	l	g	g	g	g	g	g	g	
benzidine 3 sulfonic acid	g	g	g	g	g	g	g	g	g
benzile	g	g	g	g	g	g	g	g	g
benzilic acid	l	l	g	g	g	g	g		
benzoic acid	l	l	g	g	g	l	g	g	g
benzoic acid anhydride	g	n	g	g	g	g	g		
2 benzoic acid	g	l	g	g	g	g	g	g	g
benzoic acid sulfimide		l	g		g	g	g	g	
benzoine	g	g			g	g	g		
benzonitrile	g	g	g	g	g	g	g	g	g
1.4 benzoquinone		l	g		g	g	g		
benzotrchloride		l		n	g	g	g		
benzotrifluoride		g	g		g	g	g		
O-benzoylbenzoic acid	g	g	g	g	g	g	g	g	
benzyl chloride		l		g	l	l	g	g	
benzyl actate		l	g		g	g	g	g	
benzyl alcohol	g	l	g	g	g	g	g	g	
benzyl amine		g	g		g	g	g		
benzyl benzoate	g	g	g		g	g	g	g	
benzyl butylphtalate	g	g	g	g	g	g	g	g	g
benzyl cellulose		g	g	g	g	g	g	g	
benzyl chloide	g	n	g		g	g	g	g	
benzyl ethylaniline	g	g	g	g	g	g	g	g	g
benzyl phenol	g	l	g		g	g	g	g	
benzyl salicylate	g	l	g	g	g	g	g	g	g
benzyl sulfanil acid	g	l	g	g	g	g	g	g	g
bergamot oil	l	l	g		g	g	g	g	
beryllium chloride		l	l	g	l	l	g	g	
beryllium fluoride	g	l	g		g	g	g		
beryllium sulphate			g	g	g	g	g	g	g
betumen		l	g	g	g	g	g	g	
black iron ink			g						
black ive				g					
bleaching liquid	n							g	
blood	g	n	g	g	g	g	g	g	g
borax	g		g	g					
bordeaux liquor	l	l	g	g	g	g	g		
boric acid	l	l	l	g	l	l	g	l	g
borneol	g	n	g		g	g	g	g	g
bornyl acetate	g	l	g		g	g	g	g	
bornyl chloride	g				g	g	g	g	
bornyl formiate			g		g	g	g	g	g

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Table 6

process	Cu alloy	carbon steel	st. st. AISI-316	PTFE	nickel 200	monel 400	Hastelloy C276	tantalum	titanium
boron phosphate	l	l			n	n	n		
boron trifluoride		l	g	g	g				
barkish water	l	l			l	l			
brake fluide	g	g	g	g	g	g	g	g	g
brandy	l	l	g						
brindi acid conc.				g					
bromic acid	n	n	n		n	n			
bromine	l	l	n	g	l	l	l	g	n
bromine trifluoride		g	g		g	g		n	
bromobenzene	g	l	g	g	g	g	g	g	g
bromform		l	g		g	g	g	g	
1.3 butadiene		l	g	g					
butane	l	l	g	g	g	g	g		
butane diol	g	l	g	g	g	g	g	g	
1.4 butine / 2 diol	g	l	g	g	g	g	g	g	g
butter	n	n	g	g				g	g
buttermilk	l	n	g	g	l	l			
butyl acetate	l	l	g	l	l	l	g	g	g
butyl alcohol	g	l	g	g	g	g	g	g	g
butyl amine	n	l	g		g	g	g		
butyl benzoate	g	g	g	g	g	g	g		
butyl butyrate		l	l		g	g	g	g	
butyl chloride		l	l		g	g	g	g	
butylene	g	l	g	g	g	g	g	g	g
1,4 butylene / 2 diol	g	g	g	g	g	g	g	g	g
N-butyl ether	g	g	g	g	g	g	g	g	g
butyl glycolate	g	l	g	g	g	g	g	g	g
N-butyl glycol	g	g	g	g	g	g	g	g	g
butyl mercaptane	n	l	g		g	g			
butyl oxatate	g	l	g	g	g	g	g	g	
butyl phnol	g	l	g		g	g	g		
iso butyl phosphate	g	l	g		g	g	g	g	
butylphtalate		l	g		g	g	g	g	
butyl stearate	l	l	g	g	g	g	g	g	g
butyl urethane		g	g		g	g	g	g	g
buthldehyde	g	l	g	g	g	g	g	g	g
butyric acid	l	n	g	g	n	l	g	g	g
N-butyric acid anhydride		l	g		g	g	g	g	
butyric acid chloride		l		l	g	g	g		
Y-butyrolactone	g	l	g		g	g	g	g	g
cadmium chloride	n	n	g	l			g	g	
cadmium cyanide	n		g	n					
cadmium melts	n	g	l	n					
cadmium sulphate	g	l	g	g	g	g	g	g	g
caffeine	g	l	g	g	g	g	g	g	g
calcium acetate	g	l	g	g	g	g	g	g	g
calcium arseniate	g	g	g						
calcium benzoate	g	l	g	g	g	g	g	g	g
calcium bicarbonate	g	l	g	g	g	g	g	g	g
calcium bisulphite	n	n	g	g	n	n	g	g	g
calcium bromide	l	l	l	g	l	l	g	g	g

process	Cu alloy	carbon steel	st. st. AISI-316	PTFE	nickel 200	monel 400	Hastelloy C276	tantalum	titanium
calcium carbonate	g	l	g	g	g	g	g	g	g
calcium chlorate	g	l	g	g	l	g	g		g
calcium chloride	n	l	l	g	g	g	g	g	g
calcium chromate	g	g	g	g	g	g	g		
calcium fluoride	g	g	g	g	g	g	g	g	n
calcium gluconate	g	g	g	g	g	g	g	g	g
calcium hydride	g	g	g		g	g	g		
calcium hydroxide	g	g	g	g	g	g	g	g	
calcium hypochlorid	n	l	l		l	l		g	g
calcium lactate		l	g	g	g	g	g	g	g
calcium nitrate	g	l	l	g	l	g	g		g
calcium oxalate	g	l	g	g	g	g	g	g	
calcium oxide	g	g	g		g	g	g		
calcium permanganate		l	g	g	g	g	g		g
calcium peroxide		l	g	g					
calcium phosphate	g	l	g	g	g	g	g	g	g
calcium rhodanide	g	l	l	g	g	g	g		
calcium stearate	g	l	g	g	g	g	g	g	g
calcium sulfaminat		g	g	g	g	g	g	g	g
calcium sulphate	g	l	g	g	g	g	g	g	g
calcium sulphide	n	g	g	g	l				
calcium sulphite	l	l	g	g	l	l		g	g
calcium tungstate			g	g	g	g	g		
camphene	g	g	g	g	g	g	g	g	g
camphor	g	g	g	g	g	g	g	g	g
camphoric acid	g	n	g	g	g	g	g	g	g
D-camphor sulfonic acid		l	l	g	l	l	g	g	
N-capric acid	l	l	g	g	l	l	g	g	g
E-caprolactame		l	g	g	g	g	g	g	
capronic acid	l	l	g	g	l	l	g	g	g
capronic aldehyde	g	l	g	g	g	g	g	g	g
carylic acid	l	g	g	l	l	g	g	g	
caprylic alcohol	g	l	g	g	g	g	g	g	g
capsaicin (TM)		l	g		g	g	g		
carbazole		g	g		g	g	g	g	g
carbitol	g	g	g	g	g	g	g	g	g
carcolic acid	l		g	g	l	l	g	g	g
carbolineum	g	g	g	g	g	g	g	g	g
carbon dioxide	l	l	g	g	l	l	g	l	l
carbonized mass		n		g	g	g	g		
carbon monoxide	l	l	g	g	l	l	g	l	l
carbon sulfide	l	g	g	g	g	l	g	g	g
carbon tetrachloride	l	l	g	g	g	g	g	g	g
N-4 carboxyhenyl y acid			g	g	g	g	g		g
carballite	l	l	g	g	g	g	g	g	g
caro acid		n		n				g	
carotene	g	g	g	g	g	g	g	g	g
casacara	g	l	g	g	l				
caseine			g	g	g	g	g	g	g
cashew	g	l	g	g					g
caster oil	g	l		g					

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process	Cu alloy	carbon steel	st. st. AISI-316	PTFE	nickel 200	monel 400	Hastelloy C276	tantalum	titanium
cavit	n	g			g	g	g	g	g
cesium chloride	l	l			g	g	g		
cesium hydroxide	l	l	g	l	l				
celluloid	g	l	g	g	g	g	g	g	g
cellulose acetobutyrate	g	l	g		g	g	g	g	g
cellulose ether	l	g	g						
cellulose nitrate	g	l	g		g	g	g		
cellulose paint	l	l	g	g	g	g	g	g	g
cellulose tripropionate	g	l	g		g	g	g	g	g
ceresine	g	g	g	g	g	g	g	g	g
cerium chloride	g	l			g	g		g	
cerium fluoride	l		g				g		
cerium sulphate	l		g	g					
cetylic alcohol	g	l	g		g	g	g	g	g
chaulmooga acid	l	l	g	g	g	g	g		
cheese			g						
chloracetic acid	n	l	l	g	l	l	l	g	g
chloramine	g	l	g	g	g	g	g		
chloraminebenzoic acid		l	g	g	g	g	g	g	g
chloramphenicol	n	g	g				g	g	
chloranile	g	g	g	g	g	g		g	g
chloraniline	l	l	g		g	g	g	g	g
chloranthraquinone		g	g		g	g	g	g	
chlordane	l	l	g		g		g		
chlorhydrine	l	l	g	g	g	g	g	g	g
chloric acid	n	n	n	g	n	n		g	
chlorinated water			l	g					
chlorine	l	l	l	g	l	l	l	g	l
chlorine alum				g					
chlorine cresol	g	l	g		g		g	g	
chlorine dioxide		l	l	g		g	n	g	
chlorine diphenyl	g	g	g		g	g	g	g	
chlorobenzene	g	l	g	g	g	l	g	g	g
chlorobenzenetrifluoride		g	g		g	g	g		
chlorobenzoic aldehyde		l	g	g	g	g	g	g	g
chloroethene benzene		l	l		g	g	g	g	
chloroform	l	l	g	g	g	g	g	g	g
chloroformic acid	g	l					g		
4 chloro 2 nitraline		l	g		g	g	g		
chloronitrobenzene	l	g	g		g	g	g	g	g
chloronitrobenzoic acid		l	g	g	g	g	g	g	g
4 chloro 2 nitrophenol		l	g		g	g	g		
chlorophenol	g	l	g		g	g	g	g	
chlorophenoxyacetic acid		l	g	g	g	g	g	g	
chlorophylle	g	g	g	g	g	g	g	g	g
chloropikrine	l	g	g		g	g	g	g	
chloroprene		l	g		g	g	g		
chlorosilane		g	g		g	g	g	g	
chlorosulfonic acid		l	l	g	l	l	g	g	g
chlorotoluene	g	g	g	g	g	g	g	g	g
chlorotoluidine	l	l	g		g	g	g		

process	Cu alloy	carbon steel	st. st. AISI-316	PTFE	nickel 200	monel 400	Hastelloy C276	tantalum	titanium
chlorotrifluoroethylene	g	l	g	n	g	g	g		
chloroxylene	g	l	g		g	g	g	g	
chocolate			g						
cholesterin	g	g	g	g	g	g	g	g	g
choline	n	l	g	g					
choline chloride	n	l					g		
chromic acid / oxide	n	l	g	g	n	n	n	g	g
chromium alum	l	n	l	g	l	l	g	g	g
chromium bath				g					
chromium chloride		n	l	g	l		g	g	
chromium fluoride	n	n				g		g	
chromium glucosate		g	g		g	g		g	g
chromium nitrate			g	g				g	
chromium oxide / hydroxide	g	g	g	g	g	g	g	g	g
chromium phosphate		l	g	g	g	g	g	g	g
chromium sulphate	l	n	l	g	l	l	g	g	g
chromyl chloride		g	g		g	g	g	g	g
cider	l	n	g	g	g	g	g	g	g
citral	g	l	g	g	g	g	g	g	g
citric acid	n	n	g		g	l		g	
citronellal	g	l	g		g	g	g	g	g
citronellol	g	l	g	g	g	g	g	g	g
citrus fruit	l	n	g	g	l	l	g	g	g
citrus oil	g	l	g	g	g	g	g	g	g
city gas	l	g	g	g	l	l	g	g	g
clophene				g					
clupanadioc acid	l	n	g	g	l	g	g	g	g
cocaine	g	l	g	g	g	g	g	g	g
codeine	g	n	g	g				g	
codeine salt	g	n	l	g	g	g	g	g	g
cod liver oil	l	l	g	g	g	g	g	g	g
coffe	g	g		g	g				
colza oil				g					
concrete	g	l	g	g	g	g	g	g	g
coniferylic alcohol	g	l	g	g	g	g	g	g	g
copal	g	l	g		g	g	g	g	g
copper acetate	l	l	g	g	g	g	g	g	g
copper carbonate	l	l	g	g	g	g	g	g	g
copper chloride	n	l	n	g	l	l	n	g	g
copper cyanide			g						
copper nitrate	n	g							
copper sulphate	l	l	g		g	g			
copper tetramine compound	n	l	g	g	g	g	g	g	g
corn oil				g					
cortex cascarae sagradae	l	n	g		g	g	g		
cotton see oil	n	l	g	g	g	g	g		
creosote	l	g	g						
cresol	g	l	g	g	g	l	g	g	g
croton aldehyde	g	l	g	g	g	g	g	g	g
crotonic acid	g	n	g		g	g	g	g	g
cumaric aldehyde			g	g	g	g	g	g	g

key to resistance ratings : g = good; l = limited; n = not; blank = no data currently available



Chemical Compatibility

Table 6

process	Cu alloy	carbon steel	st. st. AISI-316	PTFE	nickel 200	monel 400	Hastelloy C276	tantalum	titanium
cumarine			g		l	n		g	g
cumarone resin	g	g	g	g	g	g	g	g	g
cumene	g	l	g	g	g	g	g	g	g
cumohydroperoxide	n	g	g		g	g	g	g	
cyanacetic acid	n	l	l	g				g	g
cyan amide	g	g	g	g	g	g		g	
cyanic chloride		n	g		g	g		g	
cyanogen chloride		l	g	g	g	g	g	g	
cyanogen/dicyanogen		l	g	g				g	
cyclohexane	g	g	g	g	g	g	g	g	g
cyclohexanol	g	g	g	g	g	g	g	g	g
cyclohexanol ester	g	l	g	g	g	g	g	g	g
cyclohexanone				g					
cyclohexanone oxime	l	l	g	g				g	g
cyclohexene	g	l	g	g	g	g	g	g	g
cyclohexylamine	n	g	g	g	l	l			
cyclohexylamine carbonate	l	g	g						
cyclohexylamine laurate		g	g		g	g	g	g	g
cyclopentane	g	g	g		g	g	g	g	g
cyclopolyolefine			g	g					
P-cymol	g	l	g	g	g	g	g	g	g
cynacetamide			g	g					
cystine	l	l	g	g				g	g
dekalin (TM)				g					
delegol (TM)				g					
desmodur (TM)				g					
desmophen (TM)				g					
deuterium oxide	g	g	g		g	g	g		g
develloper (photo)				g					
dextrane			g	g		g	g	g	g
dextrine	g	g	g	g	g	g	g	g	g
dextrose	g	l	g	g	g	g	g	g	g
diacetone alcohol				g					
dialkyl sulphate	g	l	g	g	g	g	g	g	g
diazo compounds		l	l	g				g	
dibenzyle	g	g	g	g	g	g	g	g	g
dibenzylether				g					
dibutyl phthalate	g	g	g	g	g	g	g	g	g
dibutyl dithioglucolate				g				g	g
dibutylthiourea				g	g				g
dichlorobenzene				g					
dichlorobutylene				g					
dichloroethane				g	g	g			
dichloroethylene	g	l	g	g	g	g	g	g	g
dichlorophenyle (P)	g	g	g	g	g	g	g	g	g
diethyl amine	n	l	g	g	l	l	g	l	g
diethyl aniline	l	l	g	g	g	g	g	g	g
diethyl glycol				g					
diethyl ether				g					
diethyl sebacate				g					
diglycolic acid		l	l	g	l	l	g	g	g

process	Cu alloy	carbon steel	st. st. AISI-316	PTFE	nickel 200	monel 400	Hastelloy C276	tantalum	titanium
diglycolic acid dibutylester	g	l	l	g	g	g	g	g	g
diisobutyle	g	g	g	g	g	g	g	g	g
diisopropylectone				g					
dimenthyl aniline				g					
dimenthyl hylphenylcarbinole	g	g	g		g	g		g	g
dimenthyl ether	g	g	g	g	g	g	g	g	g
dimenthyl formamide				g					
dioctylphthalate				g					
dioxane	g	g	g	g	g	g	g	g	g
dpentene				g					
diphenyl	g	g	g	g	g	g	g	g	g
diphenyl amine	l	g	g		g	g	g	g	g
diphenyl oxide	g	g	g	g	g	g	g	g	g
diphenylketone	g	g	g	g	g	g	g	g	g
diphenyl propane	g	g	g	g	g	g	g	g	g
dipyoxidiphenyle sulfone				g	g				
DMDT		l	g	g	g	g	g	g	g
drilling oil	g	g	g	g	g				
dye bath			g						
egg (powder)		g	g		g	g		g	
enamels	g	l	g	g					
essential oils	l	l	g	g	g	g	g	g	g
ethane	g	g	g	g	g	g	g	g	g
ethanol	g	g	g	g	g	g	g	g	g
ethanolamine		g	g					g	g
ether				g					
ethyl acetate	g	g	g	l	l	l	g	g	g
ethyl acrylate				g					
ethyl benzene	g	g	g	g	g	g	g	g	g
ethyl butyrate	g	g	g	g	g	g	g	g	g
ethyl cellulose			g	g	l	l	g	g	g
ethyl chloride	g	l	g	g	g	g	g	g	g
ethyl ether	g	l	g	g	g	g	g	g	g
ethyl glycol	g	g	g	g	g	g	g	g	g
ethyl lactate	g	g	g	g	g	g	g	g	g
ethylene	g	g	g	g	g	g	g	g	g
ethylene bromide	l	l	g	g	g	g	g	g	g
ethylene chlorhydrine	g	g	g	g	g	g	g	g	g
ethylene chloride		g	g	l	g	g	g	g	g
ethylene cyanhydrine		g	g		g	g	g	g	g
ethylene diamine		l	g				l	g	
ethylene dichloride				g					
ethylene formiate	g	l	g	g	g	g	g	g	g
ethylene glycol		l	g	g	l	l			
ethylene imine			g	g					
ethylene mercaptane		l	g		l		g		
ethyl nitrite		g	g						
ethylene oxide	g	g	g	g	g	g	g	g	g
ethyl silicate				g					
ethyl stearate	g	g	g	g	g	g	g	g	g
ethyl sulphuric acid	n						g	g	

key to resistance ratings : g = good; l = limited; n = not; blank = no data currently available

Chemical Compatibility

Table 6

process	Cu alloy	carbon steel	st. st. AISI-316	PTFE	nickel 200	monel 400	Hastelloy C276	tantalum	titanium
eukalin (TM)				g					
extremely pure water	g	l	g	g	g	g	g	g	g
fatty acid	l	l	g	g	g	g	g	g	g
fatty alcohol	g	l	g	g	g	g	g	g	g
fatty alcohol sulphates	n	l	g	g	g	g	g	g	g
fats and waxes	l	l	g	g	g	g	g	g	g
ferric chloride	n	l	n	g	n	n	n	g	g
ferric potassium cyanide	g	l	l	g	g	g	g	g	
ferric sulphate	n	l	g	g	n	n	n	g	g
ferrous chloride	n	l	l	g	l	l	g	g	g
ferrous potassium cyanide	g	g	g	g	g	g	g	g	
ferrous sulphate	n	l	g	g	g	g	g	g	g
fish oil				g					
fixing salts			g						
fluor benzene				g					
fluoric acid	l	l	n	g	l	l	l	n	n
fluor hydrocarbon	g	g	g	n	g	g	g	l	l
fluorine	l	l	l	l	l	l		n	l
fluoroboric acid				g					
fluorocarbon	g	l	l	g	g	g	g		
fluorocarbonic acid	l	l	g	l	l	g	l		
fluoro chlorocarbon	g	l	l	g	g	g	g		
formaldehyde / formaline	l	l	g	g	g	g	g	g	g
formamide		l	g	g	l	g	g	g	g
formic acid	n	n	g	g	l	l	g	g	g
freon (TM)	g			g					
fruit				g					
fruit juice	n		g	g					
furane				g					
furfural	l	l	l	g	l	l	g	g	g
gallic acid				g					
gelatin	l	l	g	g	g	g	g	g	g
generator gas				g					
genodyn (TM)				g					
glacial acetic anhydride	n	l	g	g					
glacial acetobromic acid				g					
gluconic acid	g	l	g	g	g	g	g	g	g
glucose				g	g	g			
glue	l	l	g	g					
glutamic acid	n	l	g	g	l	g		g	g
glycerine	l	l	g	g	g	g	g	g	g
glycol acid	l	l	l	g	l	l	g	g	g
glycol	l	l	g	g	g	g	g	g	g
glycoxy acid		n	g	g	l	l	g	g	
grease				g					
halowax oil (TM)				g					
hemp / jute	l	l	g	g	g	g	g	g	g
heptane	g	g	l	g	g	g	l	g	g
hexachlorobutadiene				g					
hexachloroethane	l	l	l	g	l	l	l	g	
hexaldehyde				g					

process	Cu alloy	carbon steel	st. st. AISI-316	PTFE	nickel 200	monel 400	Hastelloy C276	tantalum	titanium
hexamethylenetetramine	l	l	g	g	l	n	g	g	g
hexane				g					
humic acid	g	l	g	g	g	g	g	g	g
hydraxylamine sulphate				g					
hydrazine		l	l		n	n	l		
hydrazine sulphate				l					
hydrobromic acid					g	n	n	l	g
hydrochloric acid	l	l	l	g	g	g	g	g	l
hydrocyanic acid	n	l	g	g	n	n	g	g	g
hydrogen	g	l	l	g					
hydrogen bromide		l	n	g	l		l	g	
hydrogen gas				g					
hydrogen iodide	l	l	l	g	l	l	g	g	g
hydrogen peroxide	l	l	g	g	l	n	n	g	n
hydrogen sulphide	l	l	g	g	l	g	g	g	g
hydroquinone		l	g	g	g	g	g	g	g
hypochloric acid	n	n	n	g				g	
impregnating oil	g	l	g	g	g	g	g	g	g
indol	g	g	g	g	g	g	g	g	g
ink (ferrogallic)		l		g					
iodine	n	l	l	g	l	l	l	g	l
iodoform		l	l		g	g	g	g	g
iron nitrate	n	n	g	g	n	n		g	
iron phosphate				g					
isatine	g	l	g	g	g	g	g	g	g
isobutyl alcohol					g				
isoctane									
isopropyl acetate					g				
isopropyl alcohol					g				
isopropyl chloride					g				
isopropyl ether					g				
JP 4 / JP 5									
kerosene					g				
ketchup					g				
lactame					g				
lactic acid	l	l	l	g	n	n	l	g	g
lactose		l	g	g	g	g	g	g	g
lacquer tinner		g							
lard					g	g			
lead acetate	l	n	g	g	l	l	g		
lead arseniate	g	g	g	g	g	g	g	g	g
lead bath (electrolytical)		l		g		g			
lead bromide		n	l				l		
lead carbonate	g	l	g	g	g	g	g	g	g
lead chloride		l	g	g		g	g	g	g
lead chromate	g	g	g	g	g	g	g	g	g
lead dioxide	g	g	g	g	g	g	g	g	l
lead (molten)	n	l	l	n	n	n			
lead nitrate		l	g	g	g	g	g	g	g
lead nitride	g		g	g	g	g	g	g	
lead oxide	l	l					l	l	

key to resistance ratings : g = good; l = limited; n = not; blank = no data currently available



Chemical Compatibility

Table 6

process	Cu alloy	carbon steel	st. st. AISI-316	PTFE	nickel 200	monel 400	Hastelloy C276	tantalum	titanium
lead rhodanide	g	n		g	g	g	g	g	
lead sulphate	g	l	g	g	g	g	g		
lead sulphide	n	l	l		n				
lead tetra-acetate			g			g			
lead trinitroresorcinate			g	g		g	g		
lecithine		l	g	g	g	g	g	g	g
levullic acid		n	l	g	l	l	g	g	
lignite tar	l	l	g		g	g	g		
lime milk			g	g					
limonene	l	l	g	g	g	g	g	g	g
linseed oil	l		g	g	g	g			
liqueur			g						
lithium bromide				g					
lithium carbonate		l	g	g	g	g	g		
lithium chloride	l	l	l	g	l	l	g	g	l
lithium hydride		l	g	l	l				
lithium hydroxide	n	l	g	l	l	g			
lithium (molten)	n	l	l	g	l	n		g	
ltiopone	g	l	g	g	g				
lysoform			g						
lysol			g						
magnesium bisulphite		n	l	g	l	l	g	g	g
magnesium carbonate	g	l	g	g	g	g	g	g	g
magnesium chloride	n	l	l	g	l	g	g	g	g
magnesium fluoride	l	l	l	g	l	l	l	l	
magnesium hydroxide				g	g	g			
magnesium (molten)	n	l	l	g					
magnesium nitrate	l	l	g	g	n	n	n	g	g
magnesium oxide	l	g	g	g	g	g	g	g	l
magnesium oxychloride	l	l	l	g	g	g	g	g	g
magnesium silicofluoride		l	g	g		l	n		
magnesium sulfite	g	l	g	g	g	g	g	g	g
magnesium sulphate	l	l	g		g	g	g	g	g
maleic acid	l	l	g	g	g	g	g	g	g
maleic acid/anhydride	n	l	g	g	g	g	g	g	g
maleic anhydride				g					
malix acid	g	n	g	g	g	g	g	g	g
malonic acid	l	l	g	g	l	l	l	g	l
malt	g	l	g	g	g	g	g	g	
maltose	g	g	g	g	g	g	g	g	g
manganese dioxide		l	g	g	l	l	l	g	
manganese sulphate	l	l	g	g	g	g	g	g	g
manganic cholride		l	l	g	l	l	g	g	
manganous chloride			g						
meat			g						
menthol	l	l	g		g	g	g	g	g
mercaptane	l	n	g	g	l	l	g	g	g
mercury	n	l	g	g	g	n	l	g	l
mercury chloride	n	n	l	g	n	n			
mercury cyanide	n	n	g		n	n			
mercury nitrate	n	n	g		n	n			
mercury salt	n	n						g	
mersolates		l	l	g	g	g	g	n	
mesamoll (TM)				g					
methane	g	l	l	g	l	g	g	l	l
methane chlorobromide		g	g	g	g	g	g	g	l
methanol	l	l	l	g	g	g	g	l	l
methyl acetate	l	l	l	l	l	g	g	g	g
methyl acrylate				g					
methyl alcohol	g		g	g	g	g			
methyl aldehyde	l	l	g	g					
methyl amine	n	l	l	g	l	n			g
methyl bromide	g	l	l	g	g	g	g	g	
methyl chloride	l	l	l	g	g	g	g	g	g
methyl ethyl cetone	g	l	g	g	g	g	g	g	g
methyl formiate	g	g	g	g	g	g	g		g
methyl isobutylcetone				g					
methyl slicylate				g					
methylene chloride	l	l	l	g	g	g	g	g	g
milk	l		g	g	l	l			
molasses	l	l	g	g	g	g	g	g	g
monobrombenzene				g					
morphine		n	g	g				g	g
morpholine	g	g	g	g	g	g	g	g	g
mortar	l	l	l	g	g	g	g	g	
mustard		n	g						
naphtaline	g	g	g	g	g	g	g	g	g
naphtaline sulfonic acid		l	l	g	l	l	l	g	l
naphtenic acid	l	l	g	g	g	g	g	g	g
naphtochinoline			g	g	g			g	g
naphtol		l	g	g	g	g	g	g	g
naphtolen 2 D (TM)				g					
naphtylamine	l	g	g	g				g	g
naphtylamine sulfonic acid	l	l	g	g				g	
nibren wax				g					
nickel choride	n		l	g	l	g	g	g	g
nickel nitrate			g		l	l	l	g	g
nickel salt		n	g	g					
nickel sulphate	l		g	g	l	l	g	g	g
nitric acid	n	l	g	g	n	n	n	g	l
nitric acid (high concentr.)	n		l	g	g	g	g	g	g
nitrobenzene		g	g	g	g	g	g	g	g
nitrogen	g	l	g	g	g	g	g	g	g
nitrous acid			l						
nitrous oxide gas				g					
novocaine			g						
oak extract	l	l	g	g	g	g	g	g	g
oleic acid	l	l	g	g	l	l			
olein				g					
oleum				g	l	l	l	l	n
olive oil				g					
oxalic acid	n	l		n	l	g	g	l	

key to resistance ratings : g = good; l = limited; n = not; blank = no data currently available

Chemical Compatibility

Table 6

process	Cu alloy	carbon steel	st. st. AISI-316	PTFE	nickel 200	monel 400	Hastelloy C276	tantalum	titanium
oxygen	g	l	g	g					
oyster		n	g				g		
ozone		l	g	g	l	l		g	g
palm oil acid		g	g	g	g	g			
paraffine	g	g	g	g	g	g			
peanut butter		g	g		g	g	g		
pentachlorodiphenyle				g					
pentane				g					
perchlorthylene	l	l	g	g	g	g	g	g	g
perchloric acid	n	n	n	g					
petrol ether			g						
petrol natural gas	l	l	g	g	l	l	g	g	
petroleum	l	g	g	g					
phenol	l		g	g	l	l	g	g	g
phenyl benzene				g					
phenyl ether				g					
phenyl hydrazine				g					
phosphoric acid	n	l	g	g	l	l	l	g	l
phosphoric acid anhydride			g						
phosphorous acid				g					
pickling liquid				g					
picric acid	n	l	g	g	n	n			
pine oil				g					
piperidine				g					
plyglycol				g					
potash lye	l	l	l	g	g	g	l	l	l
potassium acetate	g	g	g	g	g	g	g	g	g
potassium bisulphate			l	g					
potassium biarbonate			l						
potassium bromide	g	l	l	g	g	g	g	g	g
potassium carbonate	l	g	g	g	g	g			
potassium chlorate		l	g	g	g	g		g	g
potassium chloride	n	l	l	g	g	g	g	g	l
potassium chrome sulphate	l	n	l	g	l	l	g	g	g
potassium cyanate			g						
potassium cyanide	n	l	g	g	l	g	l	g	n
potassium dichromate	g	l	g	g	g	g		g	g
potassium difluoride			g						
potassium fluoride	g	g	g	g	g	g	g		
potassium hydrogen fluoride	l	l	g	g	g	g	g	n	
potassium hydroxide	l	l	l	g	g	g	l	l	l
potassium hypochlorite		l	l	g	l	l		l	g
potassium iodate		l	g	g				g	g
potassium iodide		l	l	g	g		g	g	g
potassium monochromate	g	l	g	g	g	g		g	g
potassium nitrate	l	l	l	g	g	g		g	g
potassium nitrite	l	l	l	g	g	g		l	l
potassium oxalate			g						
potassium perchlorate		l	g	g	g	g		l	l
potassium permanganate	l	l	g	g	l	l		l	
potassium peroxide	n	l	l	g	l	g	l	n	

process	Cu alloy	carbon steel	st. st. AISI-316	PTFE	nickel 200	monel 400	Hastelloy C276	tantalum	titanium
potassium persulphate				g	n	g	g	g	
potassium phosphate	l	l	l	g	g	g	l	g	l
potassium rhodanide		l	g	g	g	g	g	g	
potassium silicate	g	l	g	g	g	g	g	l	g
potassium sulphate	g	l	g	g	g	g	g	g	g
potassium sulphide	l	l	g	g	l	l	l	g	
propane	g	g	g	g	g	g			
propane chlorobromide	l	l	g		g	g	g	g	
propylene oxide		l	g	g					
protein solutions	l	l	g	g	g	g	g	g	g
pydraul (TM)				g					
pyridine	l	g	g	g	g	g	g	g	g
pyrocatechin		l	g		g	g	g	g	g
pyrogallol			g						
pyrrole				g					
pyruvic acid		n	g		g	g	g	g	
quinic acid	g	n	g	g	g	g	g	g	g
quinine	g	l	g	g	g	g	g	g	g
quinine disulphate	g	n	g	g			g		
quinine hydrochloride		n	n				g	g	
quinine monosulphate	g	n	g	g	g	g	g	g	
quinine sulphate			g						
quinine tartrate	g	l	g	g	g	g	g	g	
quinizarine		g	g		g	g	g	g	g
quinoline	g	l	g	g	g	g	g		
rape oil				g					
rhodinol	g	l	g	g					
sagrotan (TM)				g					
salicylic acid	g	n	g	g	g	g			
sea water	l	n	g	g	g	g	n	g	g
sliccofluorhydric acid	n	n	l	g	l	n	l	n	n
aliver bromide		n	g						
silver nitrate		n	g	g	n	n		g	
skydrol (TM)				g					
sodium	l	l	l	l	l	l	l	g	l
sodium acetate	l	l	g	g	g	g	g	g	g
sodium aluminate	g	l	g	g	g	g			
sodium aluminium fluoride		g	g	g	g	g	g		n
sodium aluminium sulphate	n	l	g	l	l	g	g		
sodium arseniate	g	g	g	g	g	g	g		
sodium benzoate	g	g	g	g	g	g	g	g	g
sodium bicarbonate	l	l	g	g	g	g	l		g
sodium bisulfite	n	n	g	g	l	g		g	g
sodium bisulphate	n	l	l	g	l	l	l	g	l
sodium borate	l	l	l	g	l	g	g	l	g
sodium boron hydride			g						
sodium bromate		l	g	g				g	
sodium bromide		l	l	g	g	g	g	g	g
sodium bromite			g	g	g				
sodium carbonate	l	l	g	g	l	l	g	l	l
sodium chlorate	l	g	g	l	l		g	g	

key to resistance ratings : g = good; l = limited; n = not; blank = no data currently available



Chemical Compatibility

Table 6

process	Cu alloy	carbon steel	st. st. AISI-316	PTFE	nickel 200	monel 400	Hastelloy C276	tantalum	titanium
sodium chloride				g					
sodium chlorite	l	n	l	g	l	l	n	l	g
sodium chloro-acetate	l	l	g	g	g	g	g	g	
sodium chromate	g	l	l	g	g	g	g	g	g
sodium citrate				g					
sodium cyanamide	l	l	g		g				
sodium cyanate	n	l	g	g	l				g
sodium cyanide				g	l	l	l		l
sodium dichromate				g					
sodium diphenyl sulfonate		l	g	g	g	g			
sodium dithionite	n	n	g	g	g	g	g	g	
sodium ethylate		g	g	g	g	g			
sodium fluoracetate		g	g	g	g	g			
sodium fluorophosphate	g	g	g	g					
sodium formiate	g	g	g	g	g	g	g	g	
sodium glutamet	n	l	g	g	g	g	g		
sodium hydrochloride	n	l	g	l	l	l	l	l	l
sodium hydrogen sulphide	n	l	g	g		g			
sodium hydroxide	n	l	g	l	l	l	l	l	l
sodium hypochlorite	n	l	l	g	l	l		g	g
sodium iodide		l	l	g	l	g		g	g
sodium nitrate	l	g	g	l	l	l	g	g	
sodium perborate			g	g	g				
sodium perchlorate		g	g	g	g		l	l	
sodium peroxide	n	g		l	g	g		n	
sodium phosphate	l	g	g	l	l	l	g		
sodium / potassium alloys	l	l	l	g	g	l	g	g	l
sodium pyrosulfite			g	g	g				
sodium salicylate		g	g	g	g	g	g	g	
sodium silicate	l	g	g	g	g	g	g	g	
sodium sulfite	n	g	g	g	g	g	g	g	g
sodium sulphate	l	g	g	l	l	l	g	l	
sodium sulphide	l	l	g	l	l	l	l	g	
sodium thiosulphate	l	g	g	g	g	g		g	
soft soaps / suds	l	g	g	g					
solder flux	l	l	l	g	g	l			
spinning bath			l	g					
stannous chloride	n	n	l	g				g	
stearic acid	l	n	g	g	g	g			
styrene				g					
succinic acid	g	l	g	g	g	g	g	g	g
sugar beet juice				g					
sugar solution	l	l	g		g	l			
sulfite lye	n	n	g	g	n	n	g	g	g
sulphur	l	l	g	g	l	l	l	g	g
sulphur (boiling)	l	l	l						
sulphur choride (dry)	g								
sulphur dioxide	l	l	g	g	l	g	l	g	l
sulphuric acid	n	n	l	g	l	l	l	g	l
sulphuric anhydride		n	g						
sulphurous acid	n	l	g	g					
sulphurous chloride	l	g	g	g	g	g		g	n
tannin		l	g	g					
tar (pure)		l	n	g	g				
tartaric acid		n	l	g	l	l			
tetrachloroethane		l	l	l	g				
tetrachloroethylene					g				
tetrahydrofurane					g				
tetraline					g				
tin chloride		n	l	g	l	l	g	g	g
tin chloride solution					g				
tin (molten 300 °C)		n	n	g					
tin (molten 500 °C)		n	n	n					
titanium tetrachloride					g				
toluene	g	l	g	g	g	g			
transformer oil					g				
tributoxyethyl phosphate					g				
tributyl phosphate					g				
trichloroacetic acid			n	g					
trichloroethane					g				
trichloroethylene	l	l	g	g	g	g	g	g	l
trichloroethyl phosphate					g				
tricesyl phosphate					g	g		g	
triethanolamine					g				
triethyl glycol					g				
trisodium phosphate				g					
turpentine	g	l	g	g	g	g			
uranium fluoride					g	g	l	n	
urea	l	l	g	g	l	l	g	g	g
urea resin	g	l	g		g	g	g		
uric acid		n	g	g	g	g	g	g	g
urine				g					
varnish	g	l	g	g	g	g	g	g	g
vaseline				g					
vegetable				g					
vegetal tar / charcoal	g	l	g	g	g	g	g	g	g
vinegar					g	g			
vinyl acetate					g	g			
vinyl acetic acid					g				
vinyl chloride					g	l	l	l	g
viscose					g				
wash oil		l	g			g	g		
water	l	n	g	g	g	g			
wine	l	n	g	g					
white lye					g				
wood's alloy					g				
xylamone					g				
xylene					g	g	l	l	
xylene dimethyl formamide					g				
yeast	l	l	g	g	g	g	g	g	g
zinc chloride	n	l	l	g	l	g	l	g	l
zinc (molten 300 °C)	n	n	g						
zinc (molten 500 °C)	n	n	n						
zinc salt					g				
zinc sulphate	n	n	g	g	l	l			

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