B CORROSION CHART

An R indicates that the material is resistant to the named chemical up to the temperature shown, subject to the limitations given in the notes. The notes are given at the end of the table.

A blank indicates that the material is unsuitable. ND indicates that no data was available for the particular combination of material and chemical.

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> NOTE
> This appendix should be used as a guide only.
> Before a material is used its suitability should be cross-checked with the manufacturer.

METALS

Centigrade	Aluminium (a)			Aluminium Bronze			Brass (b)			Cast Iron (c)			Copper			Gunmetal and Bronze (d)			High Si Iron (14% Si) (c)			Lead			Mild Steel BSS 15			Nickel (cast)		
	20°	60°	100°	20°	60°	100°	20°	60°	100°	20°	60°	100°	20°	60°	100°	20°	60°	100°	20°	60°	100°	20°	60°	100°	20°	60°	100°	20°	60°	100°
Acetaldehyde	R	R	R	R	R	R	R	R	R	R	ND	ND	R	R	R	R	R	R	R	R	R	R	ND			No data		R	R	R
Acetic acid (10%)	R	R		R	R	R							R	R	R	R	R	R	R	R	R	R	ND					R^{20}	R	R
Acetic acid (glac. & anh.)	R^1	R	R	R	R	R							R	R	R	R	R	R	R	R	R	R	ND					R	R	R
Acetic anhydride	R^1	R	R	R	R	R				R	R	R	R	R	R	R	R		R	R	R							R	R	R
Acetone	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R		R^{11}			R	R	R
Other ketones	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R			No data		R	R	R
Acetylene	R	R	R				R	R	R^{82}	R	R	R							R	R	R	R	R		R	R	R	R	R	R
Acid fumes	R^2	R	R	R^2	R^2	R^2																R	R							
Alcohols (most fatty)	R^1	R	R	R	R	R	R	R	R	R^{24}	R	R	R	R	R	R	R	R	R	R	R	R	R		R	R	R	R	R	R
Aliphatic esters	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R			No data		R	R	R
Alkyl chlorides		No data			No data					R^{11}	R	R	R	R	R	R	R	R	R	R	R	R			R^{11}			R	R	R
Alum	R	R	R	R	R	R							R	R	R	R	R	R	R	R	R	R	R^{18}	R^{10}				R		
Aluminium chloride	R^{11}	ND	ND	R^{20}	R^{20}								R	R	R	R	R	R	R	R		$R^{4,10}$								
Ammonia, anhydrous	R	R	R	R	R	R				R			R	R	R^{83}	R	R	R	R	R	R	R	R	R^{62}	R	R	R			
Ammonia, aqueous	R	R	R							R	R								R	R	R	R	R		R	R				
Ammonium chloride	R^{84}	R	R							R									R	R	R	R	R					R	R	R
Amyl acetate	R	R	R	R	R	R				R^{11}	R	R	R	R	R	R	R	R	R	R	R	R^4	ND	ND		No data		R	R	R
Aniline	R	R	R							R	R	R							R	R	R	R	R			No data		R	R	R
Antimony trichloride					No data					R^{11}	R	R		No data		R			R^{11}	R	R	R^4	R					R^{11}	R	R
Aqua regia																														
Aromatic solvents	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R		R^{11}			R	R	R
Beer	R	R	R	R	R	R	R	R	R	R	R	ND	R	R	R	R	R	R	R	R	ND							R	R	R
Benzoic acid	R	R	R	R	R	R	R	R	R				R	R	R	R	R	R	R	R	R	R^4						R	R	R
Boric acid	R	R		R	R	R	R	R	R				R	R	R	R	R	R	R	R	R	R	R	R^{62}				R	R	R
Brines, saturated	R	R	R	R	R	R				R^{84}			R	R	R^{20}	R	R		R	R	R	R	R					R	R	R
Bromine	R^{11}	R	R	R^{20}						R^{11}	R								R			R^{24}								
Calcium chloride	R	R	R	R	R	R				R	R		R	R	R	R	R	R	R	R	R	R^4						R^{20}	R	R
Carbon disulphide	R	R	R	R			R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R				R		
Carbonic acid	R	R	R	R	R	R													R	R	R	ND						R		
Carbon tetrachloride	R			R	R	R	R	R	R	R^{11}	R	R	R	R	R	R	R	R	R	R	R	R	R^{11}		R^{11}	R		R	R	R
Caustic soda & potash				R						R	R		R	R	R	R	R	R							R	R		R	R	R
Chlorates of Na, K, Ba	R^{11}	R	R	R	R	R							R	R	R	R	R	R	R	R	R							R	R	R
Chlorine, dry	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R^4	R	R	R	R	R	R
Chlorine, wet																			R	R	R	R	R							
Chlorides of Na, K, Mg	R	R	R	R	R	R							R	R	R^{20}	R	R	R	R	R	R	R^4	$R^{4,22}$					R	R	R
Chloroacetic acids					No data									No data			No data									No data		R^{11}	R	R
Chlorobenzene	R	ND	ND	R	R	R		No data		R	R	R		No data		R	R	R	R	R	R	R	R		R^{11}	R		R	R	R
Chloroform	R^1	R	R	R	R	R	R	R	R	R	R		R	R	R	R	R	R		No data		R	R		R^{11}	R		R	R	R
Chlorosulphonic acid				R^{20}	R^{20}	R^{20}		No data		R^{11}	R	R							R	R		R^4			R					
Chromic acid (80%)																			R	R		R	R							
Citric acid	R	R	R	R	R	R							R	R	R	R	R	R	R	R	R	R	R^{25}					R	R	R
Copper salts (most)				R	R	R										R	R	R	R^{16}	R	R	R^{16}	R					R		
Cresylic acids (50%)	R	R	R	R	R	R							R	R	R	R	R	R	R	R	R							R	R	R
Cyclohexane	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R			No data		R	R	R
Detergents, synthetic	R	R	R		No data		R	R	R		No data		R	R	R	R	R	R		No data		R	R			No data		R	R	R
Emulsifiers (all conc.)	R	R	R	R	R	R		No data			No data		R	R	R		No data			No data		R	R			No data			No data	
Ether	R^1	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R		R	R	R	R	R	R
Fatty acids (> C_6)	R	R	R	R	R	R							R	R	R	R	R	R	R	R	R	R^4	R	R^{58}				R	R	R
Ferric chloride																			R			R^4								
Ferrous sulphate				R^{20}	R^{20}	R^{20}													R	R	R	R	R	R						
Fluorinated refrigerants, aerosols, e.g. *Freon*	R^{11}	ND	ND	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R		R^{11}	ND	ND		No data	
Fluorine, dry	R	R	R	R	R	R^{11}							R	R	R	R	R	R				R^4	R		R	R	R	R	R	R
Fluorine, wet											No data											R	R	ND				R	R	R
Fluosilicic acid																						R	R	R^{58}				R^{20}	R	R
Formaldehyde (40%)	R			R	R	R	R			R			R	R	R	R	R	R	R	R	R		No data		R			R	R	R
Formic acid	R			R	R	R		No data					R	R	R	R	R	R	R	R	R	R^{30}	R^{36}					R	R	R

METALS

Nickel-Copper Alloys (e)			Ni Resist (High Ni Iron) (c)			Platinum			Silver			Stainless Steel 18/8 (f)			Molybdenum Stainless Steel 18/8 (f)			Austenitic Ferrier Stainless Steel (x)			Tantalum			Tin (g)			Titanium			Zirconium		
20°	60°	100°	20°	60°	100°	20°	60°	100°	20°	60°	100°	20°	60°	100°	20°	60°	100°	20°	60°	100°	20°	60°	100°	20°	60°	100°	20°	60°	100°	20°	60°	100°
R	R	R	R	ND		R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R		R	R	R	R	R	R
R	R	R	R			R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R			R	R	R	R	R	R
R	R					R	R	R	R	R	R	R	R		R	R	R^{84}	R	R		R	R	R				R	R	R	R	R	R
R	R		R			R	R	R	R	R	R	R^{80}			R	R		R	R	R	R	R	R				R	R	R	R	R	R
R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
			R	R	R	R	R	R				R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	ND	ND	R	R	R
R^2	R	R				R	R	R				R^2	R	R	R^2	R	R	R^{102}	R^{102}	R^{102}	R^5	R	R	R^{44}	R	R	R^2	R^2	R^2	R^2	R	R
R	R	R	R	R	R	R	R	R	R^{16}	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R^{93}	R^{93}	R^{93}	R	R	R
R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R			R	R	R	R	R	R
R	R	R	R	R	R	R	R	R	R	R	R	R^{11}	R	R	R^{11}	R	R	R	R	R	R	R	R	R			R	R	R	R	R	R
R	R		R	R		R	R	R	R	R	R	R	R^{13}		R	R		R	R		R	R	R	R			R	R	R	R	R	R
R						R	R	R	R	R	R	R^{84}			R^{84}	R					R	R	R	R^{57}			R	R	R^{10}	R	R	R
			R	R	R	R	R	R	R^{30}	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R^{13}			R	R	R	R	R	R
R			R	R	R	R	R	R	R^{73}	R	R	R^{84}			R^{84}	R		R			R	R	R	R			R	R	R	R	R	R
R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R			R	R	R	R	R	R
R			R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R			R	R	ND	R	R	R
R	ND	ND				R	R	R	R	R	R	R^{11}			R^{11}	R^{11}		R	R		R	R	R				R	R	ND		No data	
																					R	R	R				R					
R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	ND	R	R	R
R	R	R	R	R	ND	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
R	R	R				R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R			R	R	R	R	R	R
R	R		R	R	R	R	R	R	R	R	R	R	R	R	R	R	R		No data		R	R	R	R	R	R	R	R	R	R	R	R
R	R	R	R	R	R	R	R	R	R	R	R	R^{42}			R^{42}			R	R	R	R	R	R	R			R	R	R	R	R	R
R	R	R							R	R	R										R	R	R				R^{90}			R^{90}	R	R
R	R	R	R	R	R	R	R	R	R	R	R				R^{42}						R	R	R	R			R	R	R	R	R	R
R	R		R	R	R	R	R	R	R	R	R	R	R	ND	R	R	ND	R	R	R	R	R	R	R	R		R	R	R	R	R	R
R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
R	R	R	R	R	R	R	R	R	R	R	R	R^{11}	R	R	R^{11}	R	R	R	R	R	R	R	R	R^{11}	R	R	R	R	R	R	R	R
R	R					R	R	R	R	R	R	R^{84}							No data		R	R	R				R	R				
						R^{30}	R	R	R^{30}	R	R										R	R	R	R	R	R	R	R	R	R	R	R^{19}
R	R					R	R	R	R	R	R	R^{13}	R	R	R	R	R^{13}	R	R	R	R	R	R	R^{20}	R	R	R	R	R^{19}_{27}	R	R	R
R						R	R	R	R^{30}	R	R	R^{16}	R	R	R^{16}	R	R	R^{16}	R^{16}	R^{16}	R	R	R				R	R	R	R^{16}	R	R
R			R	ND	ND	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R			R	R	ND	ND	R	R	R
R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
R	R	R		No data		R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	ND	R	R	R
	No data			No data		R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R			R	No data		R	R	R
R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	ND	R	R	R
R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
						R	R											R	R	R	R	R	R				R	R	R			
R	R		R			R	R	R				R	R	R	R	R	R	R	R	R	R	R	R				R	R	R	R	R	R
R	R	R	R	R	R	R	R	R	R	R	R	R^{11}	R	R	R^{11}	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
R	R	R		No data		R	R	R				R	ND	ND	R	ND	ND	R	R								R^5	R	R			
R	R	R		No data		R	R	R							R	ND	ND															
R	R	R	R^{32}	R^{42}	ND	R	R	R	R	R	R																					
R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
R	R					R	R	R	R	R	R	R			R	R		R	R		R	R	R				R^{67}_{69}	R	R^{10}_{20}	R	R	R

METALS

Centigrade	Aluminium (a)			Aluminium Bronze			Brass (b)			Cast Iron (c)			Copper			Gunmetal and Bronze (d)			High Si Iron (14% Si) (c)			Lead			Mild Steel BSS 15			Nickel (cast)		
	20°	60°	100°	20°	60°	100°	20°	60°	100°	20°	60°	100°	20°	60°	100°	20°	60°	100°	20°	60°	100°	20°	60°	100°	20°	60°	100°	20°	60°	100°
Fruit juices	R	R	R	R	R	R							R	R	R	R	R	R	R	R	R					No data		R	R	R
Gelatine	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R			No data		R	R	R
Glycerine	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R		R	R		R	R	R
Glycols	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R					R	R	R
Hexamine																			R	R	R	R	R			No data		R	R	R
Hydrazine	R	ND	ND								No data									No data		ND			R	R	R	R	ND	ND
Hydrobromic acid (50%)											ND	ND																		
Hydrochloric acid (10%)				R															R	R								R		
Hydrochloric acid (conc.)				R^{62}																		$R^{4,11}$								
Hydrocyanic acid	R	R	R	R^{20}	R^{20}	R^{20}													R	R	R	R	R					R	R	R
Hydrofluoric acid (40%)				R^{62}																		R						R^{20}		
Hydrofluoric acid (75%)				R^{62}																								R		
Hydrogen peroxide (30%)	R	R	R																R									R		
(30–90%)	R	R	R																											
Hydrogen sulphide	R	R	R	R^{11}	R	R	R^{11}	R	R	R			R^{11}	R	R	R^{11}	R	R	R	R	R	R	R		R^{11}	R	R	R^{11}	R	R
Hypochlorites				R															R	R	R	$R^{4,34,76}$								
Lactic acid (100%)	R	R	R	R	R								R	R		R^4	R^4		R	R	R	ND						R	R	R
Lead acetate	R^{11}	R	R		No data						No data																	R	R	R
Lime (CaO)	R^{11}			R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R^4			R^{11}	R	R	R	R	R
Maleic acid	R	R	R		No data			No data					R	R	R		No data		R	R	ND					No data		R	R	R
Meat juices	R	R	R	R	R	R					No data									No data			No data			No data			No data	
Mercuric chloride																			R											
Mercury										R	R	R							R	R	R				R	R	R	R^{27}	R	R
Milk & its products	R	R	R	R	R	R					No data									No data								R	R	R
Moist air	R	R	R	R	R	R							R	R	R	R	R	R	R	R	R	R	R	R				R	R	R
Molasses	R	R	R	R^{30}	R^{30}	R^{30}	R^{30}	R		R	R	R	R^{30}	R	R	R^{30}	R	R	R	R	R					No data		R	R	R
Naphtha	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R		No data		R	R		R			R		
Naphthalene	R	R	R		No data			No data		R	R	R	R	R	R		No data		R	R	R	R	R		R			R	R	R
Nickel salts					No data						No data					R	R	R	R	R	R	R	R					R^{40}	R	R
Nitrates of Na, K, NH_3	R	R	R	R^{73}	R^{73}	R^{73}				R^{11}	R	R							R	R	R							R	R	R
Nitric acid (<25%)																			R											
Nitric acid (50%)																			R	R	R									
Nitric acid (95%)	R	R	R																R	R	R				R					
Nitric acid, fuming	R	ND	ND																R	R	R				R					
Oils, essential	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R		No data		R	R		R	R	R
Oils, mineral	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R		R	R		R	R	R
Oils, vegetable & animal	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R		R	R		R	R	R
Oxalic acid	R^{50}			R	R	R		No data					R	R	R	R	R	R	R	R	R	R^4								
Ozone	R	R	R		No data			No data		R	ND	ND		No data			No data		R	R	R		No data		R^{11}	R	R		No data	
Paraffin wax	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	ND	R	R		R	R		R	R	R
Perchloric acid								No data											R	R	R									
Phenol	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R^4	R	R^{19}		No data		R	R	R
Phosphoric acid (25%)	R			R	R	R							R	R	R				R	R	R	R	R	R						
Phosphoric acid (50%)				R	R	R													R	R	R	R	R	R^4						
Phosphoric acid (95%)				R	R	R													R	R	R	R	R							
Phosphorus chlorides				R^{11}	R^{11}	R^{11}				R^{11}	R								R	R	R^{11}	R	R	R	R^{11}	R	R	R	R	R
Phosphorus pentoxide	R^{11}	ND	ND		No data														R	R	R				R^{11}	R	R		No data	
Phthalic acid	R	R	R	R	R	R		No data					R	R	R	R	R	R	R	R	R	R	R			No data		R	R	R
Picric acid	R	ND	ND																R	R	R	R^4						R^{11}		
Pyridine	R	R	R		No data					R	R	R							R	R	R	R	R			No data		R	R	R
Sea water	R	R	R	R	R	R	R^{62}	R	R	R^{81}			R	R	R	R	R	R	R	R	R	R	R					R	ND	ND
Silicic acid	R	R	R					No data					R	R	R		No data		R	R	ND	R	R			No data		R	R	ND
Silicone fluids	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R		No data						No data		R	R	R
Silver nitrate											ND	ND							R	R	R									
Sodium carbonate	R^{42}	R		R	R	R^4	R	R	R	R^{11}	R	R	R	R	R	R	R	R	R	R	R	R^4			R	R	R	R	R	R
Sodium peroxide										R^{10}	R	R							R^{10}	R^{10}	R^{10}							R	R	R

METALS

Nickel-Copper Alloys (e)			Ni Resist (High Ni Iron) (c)			Platinum			Silver			Stainless Steel 18/8 (f)			Molybdenum Stainless Steel 18/8 (f)			Austenitic Ferrier Stainless Steel (x)			Tantalum			Tin (g)			Titanium			Zirconium		
20°	60°	100°	20°	60°	100°	20°	60°	100°	20°	60°	100°	20°	60°	100°	20°	60°	100°	20°	60°	100°	20°	60°	100°	20°	60°	100°	20°	60°	100°	20°	60°	100°
R			R	R		R	R	R	R	R	R	R[94]	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R[8]	ND	ND	R	R	R
R			R	R	R	R	R	R	R	R	R	R[16]	R	R	R[16]	R	R	R	R	R	R	R	R	R	R	R	R[9]	R	ND	R	R	R
R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	ND	R	R	R
R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	ND	R	R	R
R			R	ND	ND	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	ND	No data			R	R	R
			No data			R[19]	R	R				R	R	R	R	R	R	R	R	R	No data			R[13]			No data			R	ND	ND
R						R	R	R	R[45]												R	R	R				R	R	ND	R[30]	R	R
R	R		R			R[70]	R	R	R	R	R										R	R	R				R	R[49/78]	R	R	R	R
R						R[70]	R	R													R	R	R				R[78]	R[78]	ND	R[92]	R[92]	R[92]
R			R	R	R	R	R	R	R[98]	R	R	R	R		R	R		R	R		R	R	R	R	R		No data			No data		
R	R	R				R	R	R	R	R	R																					
R	R	R				R	R	R	R	R	R																					
R	R					R[87]	R	R				R	R	R	R	R	R	R	R	R	R	R	R	R	R					R	R	R
R[87]						R[87]	R	R				R	R	R[87]	R[63]			R	R		R	R	R	R	R					R	R	R
R	R		R	R		R	R	R				R	R	R	R	R	R	R[11]	R[11]	R[11]	R	R	R	R[11]	R	R	R	R	R	R	R	R
			R[7]			R	R	R	R[48]												R	R	R				R	R	R	R	R	R
R	R		R			R	R	R	R	R	R	R			R	R		R	R		R	R	R				R	R	R	R	R	R
R	R			No data		R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R				R	ND	ND		No data		
R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R		No data		R				No data		R	R	R
R	R		R	R	R	R	R	R	R	R	R	R[13]	R[13]	R[13]	R[13]	R	R	R	R	R	R	R	R	R[20]	R	R	R	R	R	R	R	R	R
No data			R	R	R	R	R	R	R	R	R	R	R		R	R		R	R	R	R	R	R	R	R	R		No data			R	R	R
				ND	ND	R	R	R										R	R	R	R	R	R				R	R	R[7]	R	R	R
R	R	R	R	R	R	R	R	R				R	R	R	R	R	R	R	R	R	R	R	R				R	R	ND	R	R	R
R			R	R	R	R	R	R	R[86]	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R		No data			R	R	R
R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R		No data		R	R	R
R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	ND	R	R	R
R	R	R	R	ND	ND	R	R	R	R	R	R	R[16]	R	R	R[16]	R	R	R	R	R	R	R	R				R	R	R[31/32]	R	R	R
R	R		R	R	R	R	R	R	R[30]	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
						R	R	R				R	R	R	R	R	R	R	R	R	R	R	R				R	R	R	R	R	R
						R	R	R				R	R	R	R	R	R	R	R	R	R	R	R				R	R	R	R	R	R
						R	R	R				R			R			R			R	R	R				R	R	R	R	R	R
												R	R[89]					R			R	R	R	R	ND					R	R	
R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	ND	R	R	R
R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	ND	R	R	R
R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	ND	R	R	R
R	R		R	R	R	R	R	R	R	R	R	R[13]			R[10]	R		R	R	R	R	R	R	R[20]	R	R	R[23]			R	R	R
			R	R	R	R	R	R	R[11]	R	R	R	R	R	R	R	R	R	R	R	R	R[99]	R	R	R	R	ND	No data			No data		
R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
						R	R	R	R	R	R										R	R	R				R	R	ND	R[32]	R	R
R			R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	ND	R	R	R
R	R					R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R				R	R	R[49/78]	R	R	R
R	R					R	R	R	R	R	R	R	R		R	R	R	R	R	R	R	R	R				R[42/78]	R	R	R	R	R
R						R	R	R	R	R	R	R	R		R	R		R[104]	R[104]	R[104]	R[39]	R	R				R[42/78]			R		
R			R[11]	ND	ND	R	R	R	R	R	R										R	R	R				R[11]	R[11]	ND	R		
R			R	R	R	R	R	R	R	R	R	R	R	R[11]	R	R	R[11]	R	R	R	R	ND	ND	R	R		No data			No data		
R	R	R	R	ND	ND	R	R	R	R	R	R	No data			No data			No data			R	R	R	R			R	ND	ND	R	ND	ND
R				ND	ND	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R				No data			No data		
R			R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	ND	R	R	ND	R	R	R
R[57]	R	R	R	R	R	R	R	R	R[70]	R	R	R[57]			R[57]			R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	No data			R	R	R
R	R	R		No data		R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
			ND	ND	ND	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R				R[19]	R[19]	ND	R	R	R
R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R			R	R	R	R	R	R
No data			R[10]	R[10]	R[10]	R	R	R	R	R	R	R[10]			R[10]	R	R	R	R	R	R	R[10]	R[10]				No data			R	R	R

METALS

	Aluminium (a)			Aluminium Bronze			Brass (b)			Cast Iron (c)			Copper			Gunmetal and Bronze (d)			High Si Iron (14% Si) (c)			Lead			Mild Steel BSS 15			Nickel (cast)		
Centigrade	20°	60°	100°	20°	60°	100°	20°	60°	100°	20°	60°	100°	20°	60°	100°	20°	60°	100°	20°	60°	100°	20°	60°	100°	20°	60°	100°	20°	60°	100°
Sodium silicate	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R		R	R	R	R	R	R
Sodium sulphide										R	R	R							R	ND		R[4]	R	R				R	R	R
Stannic chloride				R[11]															R	R										
Starch	R	R	R	R	R	R		No data		R	R	R	R	R	R	R	R	R	R	R	R		No data			No data		R	R	R
Sugar, syrups, jams	R	R	R	R	R	R	R	R	R	R	R	ND	R	R	R	R	R	R	R	R	R		No data			No data		R	R	R
Sulphamic acid	R[80]				No data														R	R	R					No data			No data	
Sulphates (Na, K, Mg, Ca)	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R					R	R	R
Sulphites	R	R	R	R	R	R				R[38]	R	R	R	R	R	R	R	R	R[38]	R		R	R					R	R	R
Sulphonic acids		No data			No data			No data		R[11]							No data		R	R	R	R	R			No data			No data	
Sulphur	R	R	R							R	R								R	R	R				R	R	R	R	R	R
Sulphur dioxide, dry	R	R	R	R	R	R	R	R	R	R	R		R	R	R	R	R	R				R	R	R	R	R	R	R	R	R
Sulphur dioxide, wet	R[4]	R	R	R	R	R																R	R	R						
Sulphur trioxide				R[11]	R	R	R[11]	R	R				R[11]	R	R	R[11]	R	R	R	R	R	R	R[4]	R	R[11]	R	R	R	R	R
Sulphuric acid (< 50%)				R	R	R							R	R	R				R	R	R	R	R	R						
Sulphuric acid (70%)				R	R[62]					R									R	R	R	R	R	R	R					
Sulphuric acid (95%)				R[62]						R	R								R	R	R	R	R		R					
Sulphuric acid, fuming	R[4]									R	R	R							R	R	R				R	R				
Sulphur chlorides										R[11]	R[11]									No data		R[4]							No data	
Tallow	R	R	R	R	R	R		No data		R	R	R	R	R	R		No data		R	R	R	R	R			No data			No data	
Tannic acid (10%)	R	R	R	R	R	R	R	R	R				R	R	R	R	R	R	R	R	R							R	ND	ND
Tartaric acid	R	R	R	R	R	R	R	R	R				R	R	R	R	R	R	R	R	R	R[4]	R	R				R[20]	R	R
Trichlorethylene	R	R	R	R	R	R	R	R	R	R	R		R	R	R	R	R	R	R	R	ND	R	R		R[11]	R		R	R	R
Vinegar	R	R	R	R	R	R													R	R	R							R	R	R
Water, distilled	R	R	R	R[53]	R					R	R	R	R[53]	R		R[53]	R	R	R	R	R	R[53]	R	R	R[53]	R	R	R	R	R
Water, soft	R[43]	R	R	R	R	R	R	R	R	R			R	R	R	R	R	R	R	R	R				R[53]	R	R	R	R	R
Water, hard	R[44]	R	R	R	R	R	R	R	R	R	R		R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
Yeast	R	R	R		No data			No data		R	R		R	R	R	R	R	R	R	R	R		No data			No data		R	R	R
Zinc chloride				R	R	R													R			R[4]	R					R[20]	R	R

METALS

Nickel-Copper Alloys (e)			Ni Resist (High Ni Iron) (c)			Platinum			Silver			Stainless Steel 18/8 (f)			Molybdenum Stainless Steel 18/8 (f)			Austenitic Ferrier Stainless Steel (x)			Tantalum			Tin (g)			Titanium			Zirconium		
20°	60°	100°	20°	60°	100°	20°	60°	100°	20°	60°	100°	20°	60°	100°	20°	60°	100°	20°	60°	100°	20°	60°	100°	20°	60°	100°	20°	60°	100°	20°	60°	100°
R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	ND	R	R	R
No data			R	R	R	R	R	R				R	R		R	R		R	R		R	R	R				R	ND	R^{10}	R	R	R
						R	R	R	R^{48}	R	R							No data			R	R	R				R^{15}	R^{15}	R^{15}	R^{15}	R^{15}	R^{15}
R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	ND	R	R	R
R	R	R	R	R	R	R	R	R	R	R	R	R^{34}	R	R	R	R	R	R	R	R	R	R	R	R	R	R	No data			R	R	R
R			R^{20}			R	R	R	R	R	R	R^{44}			R	R^{37}		R	R		R	R	R							No data		
R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
			R^{38}	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	ND	R^{7}_{34}	R	R
R	R		No data			R	R	R	No data			No data			No data			No data			R	R	R				No data			R	R	R
R	R	R	R	R	R	R	R	R	R^{11}	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
R	R		R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	ND	R	R	R
					ND	R	R	R	R	R	R	R			R	R		R	R		R	R	R				R	R	R	R	R	R
			R	ND	ND	R	R	R	R^{11}	R	R				R^{11}	R	R	R^{11}	R^{11}	R^{11}	R	R	R										
R			R^{20}			R	R	R	R	R	R				R^{10}			R			R	R	R				R^{49}_{78}	R	R	R	R	R
R			R			R	R	R	R	R	R							R			R	R	R				R^{49}_{78}	R		R	R	R
R						R	R	R				R			R			R	R		R	R	R									
						R	R	R				R	R^{80}		R^{80}	R		R	R													
R	R		R	R	R	R	R	R										No data			R	R	R				No data					
R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R		R	R	R	R	R	R
R	R	R				R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R		R	R	R	R	R	R
R	R	R	R	R	R	R	R	R	R	R^{70}	R	R	R	R	R	R	R	R	R	R	R	R	R	R^{20}	R	R	R	R	R^{19}	R	R	R
R	R	R	R	R	R	R	R	R	R	R	R	R^{11}	R	R	R^{11}	R	R	R	R	R	R	R	R	R^{11}	R	R	R	R	R	R	R	R
R	R	R	R			R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R			R	R	R	R	R	R
R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R^{84}	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R^{84}	R	R	R	R	R	R	R	R	R^{57}	R	R	R	R	R	R	R	R
No data			R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R		No data			R	R	R
R	R	R	R	R	R	R	R	R	R	R	R										R	R	R				R	R	R^{52}	R	R	R

THERMOPLASTIC RESINS

	Acrylic Sheet (e.g. Perspex)			Acrylonitrile Butadiene Styrene Resins (l)			Nylon 66 Fibre (m)			Nylon 66 Plastics (m)			PCTFE			PTFE (n)			PVDF (y)			Rigid Unplasticised PVC			Plasticised PVC		
Centigrade	20°	60°	100°	20°	60°	100°	20°	60°	100°	20°	60°	100°	20°	60°	100°	20°	60°	100°	20°	60°	100°	20°	60°	100°	20°	60°	100°
Acetaldehyde							R	ND	ND	R	R[50]	ND	R	R	ND	R	R	R	R	R	R	R[6]					
Acetic acid (10%)	R	R[50]		R						R[50]			R	R	R	R	R	R	R	R	R	R	R		R		
Acetic acid (glac. & anh.)													R	R	R[50]	R	R	R	R	R		R[50]					
Acetic anhydride	R[50]						R	R	R		No data		R	R		R	R	R	R	ND	ND						
Acetone							R	R	R	R	R		R	R[37]		R	R	R	R[106]	ND	ND						
Other ketones							R	R	R	R	ND	ND	R	R[37]		R	R	R									
Acetylene		No data			No data			No data			No data			No data		R	R	R	R	ND	ND	R	R			No data	
Acid fumes	R	R[68]											R	R	R	R	R	R	R	R	R	R	R			No data	
Alcohols (most fatty)							R	R	R	R	R[50]	R[50]	R	R	R	R	R	R	R	R	R	R[33]				No data	
Aliphatic esters							R	R	R	R	ND		R			R[50]	R	R	R	R	R					No data	
Alkyl chlorides		No data					R	R	R	R[46]	ND	ND	R	ND	ND		No data		R	R	R		No data			No data	
Alum	R	R		R	R		R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R		R	R	
Aluminium chloride	R	R[68]		R	R		R[43]	R	R	R	ND	ND	R	R	R	R[50]	R	R	R	R	R	R	R		R	R	
Ammonia, anhydrous				R				No data		R	ND	ND	R	R	R	R	R	R	R[107]	R[107]	R[107]	R	R				
Ammonia, aqueous	R	R[4]		R			R	R	ND	R	ND	ND	R	R	R	R	R	R	R[107]	R[107]	R[107]	R	R			No data	
Ammonium chloride	R	R		R	R		R	R	R	R	ND	ND	R	R	R	R[50]	R	R	R	R	R	R	R		R	R	
Amyl acetate							R	R	R	R	ND	ND	R	R		R	R	R	R	R	R						
Aniline										R[50]			R	R	ND	R	R	R	R	R							
Antimony trichloride	R[68]	R		R	R					R[50]	ND	ND		No data			No data		R	R	R	R	R		R	R	
Aqua regia													R	R	R	R	R	R				R	R[13]			No data	
Aromatic solvents							R	R	R	R	R[50]	R	R[14]	R		R[50]	R	R	R	R	R					No data	
Beer	R	R		R	R		R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	ND		R		
Benzoic acid	R	ND		R	R			No data		R[50]			R	R	ND	R	R	R	R	R	R	R	R[80]		ND		
Boric acid	R	R[68]		R	R		R[43]	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R		R		
Brines, saturated	R	R		R	R		R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R		R	R	
Bromine													R	R	R	R[14]	R	R	R	R	R						
Calcium chloride	R	R		R	R		R	R[43]	R	R[50]	ND	ND	R	R	R	R	R	R	R	R	R	R	R		R	R	
Carbon disulphide							R	R	ND	R[50]	ND	ND	R	R	ND	R	R	R	R	R	ND						
Carbonic acid	R	R		R	R			No data		R	R	ND	R	R	R	R	R	R	R	R	R	R	R		R	R	
Carbon tetrachloride							R	R	R	R	ND	ND	R			R[14]	R	R	R	R	R	R[14]					
Caustic soda & potash	R	R		R	R		R	R	R	R	R	R	R	R	R	R	R	R	R[107]	R[107]	R[107]	R	R			No data	
Chlorates of Na, K, Ba	R	R[68]		R	R					R	R	ND	R	R	R	R	R	R	R	R	R	R	R			No data	
Chlorine, dry	ND			R	R								R	R	R	R	R	R	R	R	R	R				No data	
Chlorine, wet	R[4]			R	R								R	R	R	R	R	R	R	R	R					No data	
Chlorides of Na, K, Mg	R	R		R	R		R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R		R	R	
Chloroacetic acids		No data											R	R	R	R[2]	R[2]	R[2]	R	ND	ND	R				No data	
Chlorobenzene							R	R	R	R	ND	ND	R			R[14]	R	R	R	R	R						
Chloroform							R	R	R				R			R[14]	R	R	R	R	R						
Chlorosulphonic acid													R	R	ND	R	R	R					ND				
Chromic acid (80%)				R									R	R	R	R	R	R		No data		R[19]	R[19]				
Citric acid	R	R		R	R		R	R[43]	R	R[50]	ND	ND	R	R	R	R	R	R	R	R	R	R	R		R		
Copper salts (most)	R[68]	R		R	R		R	R	R^{31}_{48}	R	R	R	R	R	R	R	R	R	R	R	R	R	R		R	R	
Cresylic acids (50%)													R	R	ND	R	R	R	R	R	R						
Cyclohexane							R	R	R	R	ND	ND	R	R	R	R	R	R	R	R	R					No data	
Detergents, synthetic	R	R		R			R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R		R		
Emulsifiers (all conc.)	R	R			No data		R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R		R	R	
Ether							R	R	R	R	ND	ND				R	R	R	R	R	R					No data	
Fatty acids (>C_6)	R	ND		R	R		R	R	ND	R	ND	ND	R	R	R	R	R	R	R	R	R	R	R			No data	
Ferric chloride	R	R		R	R		R	R[43]		R[30,50]			R	R	R	R[50]	R	R	R	R	R	R	R		R	R	
Ferrous sulphate	R	R		R	R		R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R		R	R	
Fluorinated refrigerants, aerosols, e.g. *Freon*		No data						No data		R	ND	ND	R			R[14]	R	R	R	R	R	R	R				
Fluorine, dry		No data											R	R		R[48]	R	R	R	R	R						
Fluorine, wet		No data											R	R			No data		R	R	R	R	R				
Fluosilicic acid		No data					R[43]	R						No data			No data		R	R	R	R[15]	R			No data	
Formaldehyde (40%)	R	ND		R	R					R[50]	R[50]		R	R	ND	R	R	R	R	R	R	R	R[30]		R		
Formic acid	R[10]			R[32]	R[10]								R			R	R	R	R	R	R	R				No data	

THERMOPLASTIC RESINS																										
Polyethylene Low Density			Polyethylene High Density			Polycarbonate Resins			Polypropylene			Polystyrene			Melamine Resins (o)			Furane Resin			Epoxy Resins (p)			Phenol Form-aldehyde Resins (r)			Polyester Resins		
20°	60°	100°	20°	60°	100°	20°	60°	100°	20°	60°	100°	20°	60°	100°	20°	60°	100°	20°	60°	100°	20°	60°	100°	20°	60°	100°	20°	60°	100°
R^{27}			R	R^{80}					R	R	ND	No data						No data			R	R		R	ND	ND	No data		
R	R		R^{56}	R		R	R	ND	R	R	ND	R			R^{4}	ND	ND	R	R	R	R	ND		R	R	R	R	R^{23}	
R^{27}			R^{56}	$R^{50,56}$		No data			R	R					No data			R	R	R	R^{30}	ND		R	R		R^{30}		
ND			R	R^{50}					R	R			No data					R	R	ND	R^{68}	ND		R	ND	ND			
			R	R					R	R	ND				R	R		R	R	ND				R					
	No data		R^{56}	R					R	R	ND				R	R		R	R	R	R^{4}_{30}	ND		R					
	No data		R	R		R	ND	ND		No data			No data		R	R	R		No data			No data			No data			No data	
	No data		R	R			No data		R^{2}	R		R^{2}	R					R	R	R	R^{2}	R^{30}		R	R	R		No data	
R^{27}			R^{56}	R		R^{46}	ND	ND	R	R	ND	R	R^{33}		R	R		R	R	R	R^{50}	$R^{30,71}$		R	R		R	R	
			R	R		ND									R	R		R	R	R	R^{50}	$R^{30,71}$		R	R			No data	
	No data		R	R		R									R	R		R	R	R	R^{30}_{71}	R			No data			No data	
R	R		R	R		R	ND	ND	R	R	R	R	R		R	R		R	R	R	R	R		R	R	R	R	R^{30}	R^{65}
R	R		R	R		R	ND	ND	R	R	R	R	R					ND	ND	ND	R	R		R	R	R	R	R^{30}	
R	R		R	R		ND			R	R	R	R	ND	ND	R			ND	ND	ND		No data			No data		R	R^{30}	
R	R		R	R					R	R	R	R	R		R						R	ND					R^{30}		
R	R		R	R		R	ND	ND	R	R	R	R	R		R			R	R	R	R	ND		R	R	R	R		
			R	R		ND									R	R		R	R	R	R^{30}	ND		R	R		R^{30}		
			R^{50}	R		ND									R	R		R	R	R	R^{30}	ND		R	R				
			R^{50}	R					R	R	R				ND	ND			No data		R	ND	ND	R	ND	ND			
R	R		R	R		R	ND	ND	R	R	ND	R	R		ND	ND			No data		R	ND	ND	R	ND	ND			
			R^{56}						R																				
	No data		R^{80}						R						R	R		R	R	R	R	$R^{4,30}$		R	R	R			
R	R		R	R		R	ND	ND	R	R	ND	R	R		R	ND	ND		No data		R	R		R	R	R	R	R	R
R	R		R^{1}	R		R			R	R	ND	R			R			R	R	R	R	R		R	R	R	R^{30}	R	
R	R		R	R		R	ND	ND	R	R	R	R			R	R	ND	R	R	R	R	R		R	R	R	R	R^{30}	R^{65}
R	R		R	R		R	R	R	R	R	R	R	R		R	ND	ND	R	R	R	R	R		R	R	R	R	R^{30}	R^{65}
R	R		R	R		R	R	R	R	R	R	R	R		R	ND	ND	R	R	R	R	R		R	R	R	R	R^{30}	
			R^{50}									R			R			R	ND	ND		No data		R	R				
R	R		R	R		R	ND	ND	R	R	ND	R	R		R	R	R		No data		R^{30}	R^{30}		R	R	R	R	R	
															R	R								R	R	ND	R^{30}		
R	R		R^{19}	R					R	R	R	R	R		R^{10}			R	R	R	R	R^{19}					R^{13}		
R	R		R	R		R^{2}			R	R	ND		No data		ND	ND			No data		R	R		R	ND	ND	R	R^{30}	R^{65}
			R^{80}			ND										No data					R	$R^{4,30}$					R	R^{30}	
			R^{50}																								R	R^{30}	
R	R		R	R		R	ND	ND	R	R	R	R	R		R	R		R	R	R	R	R		R	R	R	R	R^{30}	R^{65}
	No data		R	R		ND			R	R	ND		No data					R	ND	ND	R^{44}_{58}	ND			No data		R^{30}		
			R^{80}												R	R		R	R	R	R^{30}	ND		R	ND	ND			
															R	R		R	R	ND	R^{30}	ND		R	R	R			
						ND							No data			No data							No data							
R	R		R^{50}			ND			R	ND	ND																R^{10}		
	R		R^{56}	R		R	R		R	R	ND	R			R	ND	ND	R	R	R	R	$R^{4,30}$		R	R	R	R	R	R^{30}
	R		R	R		R	R		R	R	ND	R				No data		R	R	R	R	R		R	R	R	R	R^{30}	
			R^{13}	R						No data			No data						No data					R	R				
	No data		R^{50}	R^{50}		R									R	R		R	R	ND	R^{68}	R^{68}		R	R	R		No data	
R^{56}	R		R^{56}	R		R^{98}	R^{98}		R	R	R	R	R		R	R		R	R	R	R	R		R	ND	ND	R^{62}	R^{62}	
R^{56}	R		R^{56}	R		ND			R	R	ND		No data		R	R		R	R	R	R	R		R	R	R		No data	
			R^{56}	R^{50}					R^{50}	R	ND				R	R		R	ND	ND	R	ND		R					
	No data		R^{56}	R^{56}		ND			R	R	ND	R	R		R	R		R	R	R	R	R		R	R	R	R	R^{30}	
	R		R	R		R	R		R	R	R	R	R			No data		R	ND	ND	R	R		R	R	R	R	R^{30}	R^{65}
	R		R	R		R	ND		R	R	R	R	R			No data		R	ND	ND	R	R		R	R	R	R	R^{30}	R^{65}
																		R	ND	ND									
R^{50}			R^{50}			R				No data					R	R		R	ND	ND	R	R		R	ND	ND		No data	
						ND										No data			No data		R^{30}	R						No data	
						ND										No data			No data		R^{30}	$R^{4,30}$						No data	
R^{3}	R^{3}		R^{6}	R		ND			R	R	ND		No data					R	R	ND				R	ND	ND	R^{15}		
R	R		R^{56}	R		R	R		R	R	ND				R			R	R	ND	$R^{4,30}$			R	R	R	R^{30}	R	
R	R		R^{56}	R		R^{32}	R^{32}		R	ND	ND	R			R						$R^{4,30}$			R			R^{15}		

H.D. Polyethylene is suitable for a number of applications at 100°C for limited periods, depending on the environment.

THERMOPLASTIC RESINS

	Acrylic Sheet (e.g. Perspex)			Acrylonitrile Butadiene Styrene Resins (l)			Nylon 66 Fibre (m)			Nylon 66 Plastics (m)			PCTFE			PTFE (n)			PVDF (y)			Rigid Unplasticised PVC			Plasticised PVC		
Centigrade	20°	60°	100°	20°	60°	100°	20°	60°	100°	20°	60°	100°	20°	60°	100°	20°	60°	100°	20°	60°	100°	20°	60°	100°	20°	60°	100°
Fruit juices	R[68]	R		R	R		R	R	ND	R	R	R	R	R	R	R	R	R	R	R	R	R	R				
Gelatine	R	R		R	R		R	R	ND	R	R	R	R	R	ND	R	R	R	R	R	R	R	R			No data	
Glycerine	R	R		R	R		R	R	R	R	R[50]	ND	R	R	R	R	R	R	R	R	R	R	R		R		
Glycols	R	ND					R	R	R	R[50]	R[50]	ND	R	R	R	R	R	R	R	R	R	R	R			No data	
Hexamine		No data					R[43]	R	R		No data		R	R	ND	R	R	R	R	R	R					No data	
Hydrazine		No data			No data			No data			No data			No data		R	R	R		No data			No data			No data	
Hydrobromic acid (50%)	R	R		R									R	R	R	R	R	R	R	R	R	R[32]	R		R	R	
Hydrochloric acid (10%)	R	R		R	R								R	R	R	R	R	R	R	R	R	R	R		R	R	
Hydrochloric acid (conc.)	R	R[50]		R									R	R	R	R	R	R	R	R	R	R[3]	R[3]		R	ND	
Hydrocyanic acid				R[10]	R[10]								R	R	ND	R	R	R	R	R	R	R	R			No data	
Hydrofluoric acid (40%)				R									R	R	R	R	R	R	R	R	R	R[30]			R		
Hydrofluoric acid (75%)													R	R	R	R	R	R	R	R	R	R[19]					
Hydrogen peroxide (30%)				R									R	R	R	R	R	R	R	R	R	R	R		R		
(30 – 90%)													R	R	ND	R	R	R	R	R	R	R	R[30]		R		
Hydrogen sulphide	R	ND			No data			No data		R	ND	ND	R	R	R	R	R	R	R	R	R	R	R		R		
Hypochlorites	R[34]	ND		R	R								R	R	R	R	R	R	R[107]	R[107]	R[107]	R[50]	R			No data	
Lactic acid (100%)	R	R[68]		R	R		R						R	R	ND	R	R	R	R	R	R	R[15]	R				
Lead acetate	R[68]	R		R	R		R[43]	R	R	R[50]	R[50]	ND		No data		R	R	R	R	R	R	R	R		R	R	
Lime (CaO)	R	R		R	R		R	R	R	R	R	ND	R	R	R	R	R	R	R	R	R	R	R			No data	
Maleic acid	R[68]	R		R	R		R[43]	R	R	R[50]	ND	ND	R	R	ND	R	R	R	R	R	R	R	R[37]				
Meat juices	R	R		R	R			No data		R	R	R	R	R	ND	R	R	R	R	R	R	R	R			No data	
Mercuric chloride	R	ND		R			R[43]	R	R	R[50]			R	R	R	R	R	R	R	R	R	R	R				
Mercury	R	R		R	R		R	R	ND	R	R	R	R	R	R	R	R	R	R	R	R	R	R				
Milk & its products	R	R		R			R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R		R		
Moist air	R	R		R	R		R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R			No data	
Molasses	R	R		R			R	R	ND	R	R	R	R	R	R	R	R	R	R	R	R	R	R		R	R	
Naphtha				R			R	R	R		No data		R			R	R	R	R	R	R	R	R			No data	
Naphthalene	R[4]							No data		R	ND	ND				R	R	R	R	R	R						
Nickel salts	R	R		R	R		R[43]	R[31]	R		No data		R	R	R	R	R	R	R	R	R	R	R		R	R	
Nitrates of Na, K, NH_3	R	R		R	R			No data		R	R	ND	R	R	R	R	R	R	R	R	R	R	R		R	R	
Nitric acid (<25%)	R	R[10]											R	R	R	R	R	R	R	R	R	R	R[37]		R	ND	
Nitric acid (50%)													R	R	R	R	R	R	R	R	R	R	R[30]		R	ND	
Nitric acid (95%)													R	R	R	R	R	R	R	ND	ND						
Nitric acid, fuming													R	R	ND	R	R	R	R			R[66]	R				
Oils, essential	R[62]	R[62]		R	R		R	R	R	R	R	R		No data		R	R	R	R	R	R	R[62]	R			No data	
Oils, mineral	R	R		R	R		R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R			No data	
Oils, vegetable & animal	R			R	R		R	R	R	R	R	R	R	R	ND	R	R	R	R	R	R	R	R			No data	
Oxalic acid	R	R		R			R	ND	ND	R[50]	ND	ND	R	R	R	R	R	R	R	R	R	R	R		R		
Ozone	R	ND						No data		R[50]	ND	ND	R	R	R	R	R	R	R	R	R	R	R		R		
Paraffin wax	R	R		R	R		R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R			No data	
Perchloric acid		No data			No data								R	R	R	R	R	R	R	R	R	R[52]	R[10]		ND		
Phenol													R	R		R	R	R	R	R	R	R			ND		
Phosphoric acid (25%)	R	R		R									R	R	R	R	R	R	R	R	R	R	R		R	R	
Phosphoric acid (50%)	R			R									R	R	R	R	R	R	R	R	R	R	R			No data	
Phosphoric acid (95%)				R									R	R	R	R	R	R	R	R	R	R[55]	R			No data	
Phosphorus chlorides		No data			No data			No data			No data		R	ND	ND	R	R	R	R	R	R					No data	
Phosphorus pentoxide	R[68]	R			No data					R	R	ND		No data			No data		R	R	R	R	R[68]		R	ND	
Phthalic acid		No data			No data			No data		R			R	R	ND	R	R	R	R	R	R	R	R				
Picric acid	R[68]				No data			No data		R[50]				No data		R	R	R	R	R	R	R[10]	R		R[105]	ND	
Pyridine		No data					R	R	R	R	ND	ND	R	R	ND	R	R	R	R	R		ND				No data	
Sea water	R	R		R	R		R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R		R	R	
Silicic acid		No data		R	R		R	ND	ND		No data		R	R	R	R	R	R	R	R	R	R	R			No data	
Silicone fluids	R[4][30]	R			No data		R	R	R	R	ND	ND	R	R	R	R	R	R	R	R	R		No data			No data	
Silver nitrate	R	R		R	R[64]		R	R	R	R	ND	ND	R	R	R	R	R	R	R	R	R	R	R			No data	
Sodium carbonate	R	R		R	R		R	R	R	R	ND	ND	R	R	R	R	R	R	R	R	R	R	R		R	ND	
Sodium peroxide	R[4]			R	ND								R	R	R	R	R	R	R	R	R	R	R		R	R	

THERMOPLASTIC RESINS

Polyethylene Low Density			Polyethylene High Density			Polycarbonate Resins			Polypropylene			Polystyrene		
20°	60°	100°	20°	60°	100°	20°	60°	100°	20°	60°	100°	20°	60°	100°
R	R		R	R		R			R	R	ND	R^{13}		
	No data		R	R		ND			R^{30}	R	ND		No data	
R	R		R^{56}	R		R			R	R	R^{30}	R	R	
R	R		R^{56}	R		R			R	R	ND	R	R	
	No data		R^{56}	R		ND				No data			No data	
	No data		R^{56}	R		ND			R^{13}	ND	ND		No data	
R	R		R	R		ND			R^{56}	R^{27}	R^{27}		No data	
R	R		R	R		R	R		R	R	R^{50}	R		
R	R		R^{14}	R^{14}					R	R		R		
R	R		R	R		ND			R	R	ND		No data	
R	R		R	R^{80}		R^{32}			R	ND	ND			
R	R		R	R^{80}		ND			R^{56}	ND				
R			R	R		R	R					R		
R			R			ND							No data	
R	R		R^{13}	R		ND			R	R	ND			
R	R		R	R		$R^{7,34}$			R	R	R	R		
R	R		R^{56}	R^{56}		R	R		R	R	ND			
R	R		R	R		ND			R^{7}	R	ND	R	ND	ND
R	R		R	R					R^{7}_{11}	R	R	R		
R	R		R^{19}	R		ND			R	R	R	R	R	ND
	No data		R	R		ND			R	R	ND	R	ND	ND
R	R		R	R		R	R		R^{6}	R	ND	R	R	
R	R		R	R		R			R	R	R	R	R	
R	R		R	R		R			R	R	R	R		
R	R		R	R		R			R	R	R	R	R	
R	R		R	R		ND			R	R	ND		No data	
			R	R^{80}		ND			R^{30}	ND	ND			
			R	ND		ND			R	R	R			
R	R		R	R		ND			R	R	R^{30}	R	R	
R	R		R	R		$R^{7.75}_{7}$			R^{7}	R	ND	R^{34}	R^{34}	ND
R	R		R^{80}	R		R			R	R	R			
R^{50}			R^{80}											
R^{50}			R^{50}			ND			R	R	R^{50}			
R^{50}	R		R^{50}	R		ND			R^{30}					
R^{50}			R^{62}			R	R		R	R		R		
R	R		R^{56}	R		R			R	R		R	R	
						R	R			No data				
ND	ND		R	R^{50}		ND	R		R	R	ND	R		
R^{10}	R^{10}		R	R^{66}		R	ND							
			R	R					R	R	ND	R^{10}		
R	R		R	R		R	R		R	R	R	R	R	
R	R		R	R		R	R		R	R	ND	R	R	
R^{50}			R^{50}			R	R		R	R	ND		No data	
R	R		R	R^{50}					R	ND	ND		No data	
R	R		R	R		ND			R	R	ND		No data	
	No data		R	R		ND			R	R	ND		No data	
R^{13}			R	R		ND			R	R	ND		No data	
	No data		R	R^{80}					R	ND	ND			
R	R		R	R		R			R	R	R	R	R	
R	R		R	R		R	ND		R	R	ND	R	R	
R^{50}			R^{56}	R^{56}		R	R	R	R	R	ND		No data	
R	R		R	R		R	ND		R	R	ND	R	R	
R	R		R	R					R	R	ND	R		
R	R		R^{13}	ND		ND				No data			No data	

These results at 20°C refer to low stress moulded parts made from Makrolon. The chemical resistance of this material may be affected by mechanical stresses and high temperatures. The polymer may however be used at relatively high temperatures for a thermoplastic; it has good heat resistance up to 135°C. Makrolon is the polycarbonic acid ester of 4,4′-dihydroxydipheny-2 2′-propane.

THERMOSETTING RESINS

Melamine Resins (o)			Furane Resin			Epoxy Resins (p)			Phenol Form-aldehyde Resins (r)			Polyester Resins		
20°	60°	100°	20°	60°	100°	20°	60°	100°	20°	60°	100°	20°	60°	100°
R	R			No data		R	$R^{4,30}$		R	R	R	R	R	R^{65}
R	R			No data		R	R			No data			No data	
R	R		R	R	R	R	R		R	R	R	R	R	R^{65}
R	R		R	R	R	R	R		R	R	R	R	ND	ND
R			ND	ND	ND	R	$R^{4,30}$		R	R	R		No data	
ND	ND			No data		R	R			No data			No data	
			R	ND	ND				R	ND	ND		No data	
R			R	R	R	R	$R^{4,30}$		R	R	R	R^{30}	R	R^{65}
						$R^{4,30}$			R	ND	ND			
	No data			No data		$R^{4,30}$				No data			No data	
							No data		R	ND	ND	R^{10}		
							No data							
R						R^{30}	ND	ND	R	ND	ND	R		
						R^{30}	ND	ND						
R			R	R	ND	R	R^{30}		R	ND	ND	R	R^{65}	
R^{10}						$R^{4,30}$						R	ND	
R				No data		$R^{4,30}$			R			R^{30}	R	
ND	ND		R	R	R	R	R		R	ND	ND	R	R	R^{65}
R			R	R	R	R				No data		R	R^{30}	ND
R			R	R	R				R			R	R^{13}	R
R	R			No data		R^{30}	R^{30}			No data			No data	
	No data			No data		R	R		R	R		R	R	R^{30}
R	R		R	ND	ND	R	R			No data		R	R	R
R	R					R	R		R	R	R	R	R	
R	R	R	R	R	R	R	R		R	R	R	R	R	R
R	R			No data		R	R		R	R	R	R	R	R
R	R		R	R	R	R^{30}	R		R	R	R	R	R^{30}	
R	R		R	R	R	R	R		R	R	R	R	R^{30}	
	No data			No data		R	R		R	R	R	R	R	R^{65}
R^{23}	R		R	R	R	R	R		R^{75}			R	R^{30}	R^{65}
R^{10}						R^{10}						R		
R	R			No data		R	R		R	R	R		No data	
R	R		R	R	R	R	R		R	R	R	R	R	R
R	R			No data		R	R		R	R	R	R	R	R
R			R	ND	ND	R^{30}	ND		R	ND	ND	R	R^{30}	
	No data			No data			No data			No data			No data	
R	R		R	R	R	R	R		R	R	R	R	R	R
				No data		$R^{44,30}$						R^{10}		
						$R^{44,30}$			R	R				
R			R	R	R	R	R^{30}		R	R		R	R	R^{65}
R				No data		$R^{4,30}$			R	R		R	R^{30}	R^{65}
R			ND			$R^{4,30}$			R	R			No data	
			R	R	ND		No data		R	ND	ND		No data	
				No data		R^{30}				No data			No data	
R			R	R	R	R	R^{30}		R	ND	ND	R	R	R^{65}
R	ND			No data		R	ND		R	ND	ND	R^{10}	ND	ND
R	ND	ND				R	R							
R			R	R	R	R	R		R	R	R	R	R	R
R	R			No data		R	R			No data			No data	
R	R		R	R	R	R	R			No data			No data	
R				No data		R	R		R	R		R	R^{30}	R^{65}
R^{10}	R		R	R	R	R	R		R			R	R	
R	R			No data		R	R						No data	

THERMOPLASTIC RESINS

	Acrylic Sheet (e.g. Perspex)			Acrylonitrile Butadiene Styrene Resins (f)			Nylon 66 Fibre (m)			Nylon 66 Plastics (m)			PCTFE			PTFE (n)			PVDF (y)			Rigid Unplasticised PVC			Plasticised PVC		
Centigrade	20°	60°	100°	20°	60°	100°	20°	60°	100°	20°	60°	100°	20°	60°	100°	20°	60°	100°	20°	60°	100°	20°	60°	100°	20°	60°	100°
Sodium silicate	R	R		R			R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R		R	R	
Sodium sulphide	R	R[68]		R			R	R	ND	R	ND	ND	R	R	R	R	R	R	R	R	R	R	R		R	R	
Stannic chloride	R[68]	R								R[50]	ND	ND	R	R	R	R	R	R	R	R	R	R	R		R	R	
Starch	R	R		R			R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R		R	R	
Sugar, syrups, jams	R	R		R	R		R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R			No data	
Sulphamic acid		No data			No data		R[43]	R	R		No data			No data			No data		R	R	R		No data			No data	
Sulphates (Na. K. Mg, Ca)	R	R		R	R		R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R		R	R	
Sulphites	R	R		R				No data			No data		R	R	R	R	R	R	R	R	R	R	R			No data	
Sulphonic acids		No data			No data									No data		R	R	R	R	R	R	R	R[50]			No data	
Sulphur	R	R[68]		R	ND			No data		R	ND	ND	R	R	R	R	R	R	R	R	R	R	R			No data	
Sulphur dioxide, dry	R	R[68]		R				No data		R	ND	ND	R	R	R	R	R	R	R	R	R	R	R		R	R	
Sulphur dioxide, wet	R	R[68]		R				No data		R[50]			R	R	R	R	R	R	R	R	R	R	R[50]		ND		
Sulphur trioxide		No data		R	R									No data		R	R	R	R	R	R	R[13]	R			No data	
Sulphuric acid (<50%)	R[25]	R[32]											R	R	R	R	R	R	R	R	R	R	R		R	ND	
Sulphuric acid (70%)													R	R	R	R	R	R	R	R	R	R	R			No data	
Sulphuric acid (95%)													R	R	R	R	R	R	R	R		R	R[50]			No data	
Sulphuric acid, fuming													R	R	R	R	R	R	R								
Sulphur chlorides		No data			No data						No data			No data		R[30]	R	R		No data		ND				No data	
Tallow	R[68]	R		R	R		R	R	R	R	ND	ND	R	R	R	R	R	R	R	R	R	R	R		R	ND	
Tannic acid (10%)	R	ND			No data		R	ND	ND	R	ND	ND	R	R	ND	R	R	R	R	R	R	R	R		R	ND	
Tartaric acid	R	R		R	R		R	ND	ND	R	R[50]	ND	R	R	ND	R	R	R	R	R	R	R	R		R	ND	
Trichlorethylene							R	R	R	R	R	R[50]				R[14]	R	R	R	R	R						
Vinegar	R	R[68]		R	R					R[50]	ND	ND	R	R	R	R	R	R	R	R	R	R	R		R	ND	
Water, distilled	R	R		R	R		R	R	R	R	R[50]	R	R	R	R	R	R	R	R	R	R	R	R			No data	
Water, soft	R	R		R	R		R	R	R	R	R[50]	R	R	R	R	R	R	R	R	R	R	R	R		R	R	
Water, hard	R	R		R	R		R	R	R	R	R[50]	R	R	R	R	R	R	R	R	R	R	R	R		R	R	
Yeast	R	R[68]		R			R	R	R	R	ND	ND	R	R	R	R	R	R	R	R	R	R	ND		R	ND	
Zinc chloride	R	R[68]		R	R		R[43]	R	R				R	R	R	R	R	R	R	R	R	R	R		R	R	

THERMOPLASTIC RESINS																										
Polyethylene Low Density			Polyethylene High Density			Polycarbonate Resins			Polypropylene			Polystyrene			THERMOSETTING RESINS											
															Melamine Resins (o)			Furane Resin			Epoxy Resins (p)			Phenol Form-aldehyde Resins (r)			Polyester Resins		
20°	60°	100°	20°	60°	100°	20°	60°	100°	20°	60°	100°	20°	60°	100°	20°	60°	100°	20°	60°	100°	20°	60°	100°	20°	60°	100°	20°	60°	100°
R	R		R	R		ND			R	R	R		No data		R			R	R	R	R	R		R			R	R	R[65]
R	R		R	R			No data		R	R	R		No data		R			R	R	R	R	R			No data		R	R	R[65]
R	R		R	R			No data		R[7]	R	R	R[1]	R		ND	ND		R	R	ND	R[68]			R	ND	ND		No data	
R	R		R	R		R	ND		R	R	R	R	R		R	R			No data		R	R		R	R	R		No data	
R	R		R	R		R			R	R	ND	R	R		R	R			No data		R	R		R	R	R		No data	
ND	ND			No data			No data		R	R	ND		No data		R	ND	ND	R	ND	ND		No data			No data			No data	
R	R		R	R		R	R	ND	R	R	ND	R	R		R	R		R	R	R	R	R[30]		R	R	R	R	R[30]	R[65]
R[34]			R	R			No data		R	R	ND	R	R		R	R		R	R	R	R	R		R	R		R	R[30]	R[65]
	No data			No data			No data			No data			No data			No data		R	R	ND	R	R[44]			No data			No data	
R	R		R	R			No data		R	R	ND		No data		R	R		R	R	R	R	R			No data			No data	
R	R		R	R			No data		R	R					R			R	R	R	R	R		R	ND	ND	R	ND	ND
R			R	R		ND			R	R	ND				R			R	R	R	R			R	ND	ND	R[30]	ND	ND
						ND				No data											R[11]			R	ND	ND	R[30]	ND	ND
R	R		R	R		R	R		R	R		R			R[10]			R	R	R	R	R[30]		R	R	R	R[30]	R	
R	R[50]		R	R[50]		R	R	ND	R												R[30]						R[30]	R	
R[50]			R[50]	R[80]					R[56]																				
			R[60]			R[60]																							
ND	ND			No data						No data			No data		ND	ND		R	R	R		No data		R	ND	ND		No data	
R			R[50]	ND	ND	R	ND		R	R	ND	R			R	R			No data		R	R		R	R	R		No data	
R	R		R[56]	R		ND			R	R	ND				R	R			No data		R	R[30]		R	R	R	R	R	R
R	R[10]		R	R		R	R		R	R	ND	R	R		R				No data		R	R[30]		R	R	R	R	R	R
			R[50]												R	R		R	R	R				R	R	R	R	R[30]	
R	R		R	R			No data		R	R	ND	R			R				No data		R	R[4]		R	ND	ND	R	R[30]	
R	R		R	R		R	R	R	R	R	R	R	R		R	R		R	R	R	R	R		R	R	R	R	R	R[30]
R	R		R	R		R	R	R	R	R	R	R	R		R	R		R	R	R	R	R		R	R	R	R	R	R[30]
R	R		R	R		R	R	R	R	R	R	R	R		R	R		R	R	R	R	R		R	R	R	R	R	R[30]
R	ND		R	R		ND			R	R	ND		No data		R	R			No data		R	ND			No data			No data	
R	R		R	R		R	R		R	R	ND	R	R		R			R	R	R	R	ND		R	ND	ND	R	R[30]	R[65]

RUBBERS

	Butyl Rubber and Halo-Butyl Rubber			Ethylene Propylene Rubber (q)			Hard Rubber (Ebonite) (h)			Soft Natural Rubber (h)			Neoprene (i)			Nitrile Rubber			Chlorosulphonated Polyethylene			Polyurethane Rubber (v)			Silicone Rubbers (k)		
	20°	60°	100°	20°	60°	100°	20°	60°	100°	20°	60°	100°	20°	60°	100°	20°	60°	100°	20°	60°	100°	20°	60°	100°	20°	60°	100°
Acetaldehyde	R	R	ND	R	R	ND	R	R	R	R^{80}	R^{80}	ND										ND	ND		R	R	R
Acetic acid (10%)	R^{14}	R	R	R	R^{14}	ND	R	R	R				R	R	R^{14}	R	R		R	R	ND	R^{80}	R^{80}		R	R	R
Acetic acid (glac. & anh.)	R^{14}	R	R	R^{14}	R^{14}	ND	R	R^{14}	R				R^{95}			R^{4}			R^{85}			R^{80}			R^{17}	R	R
Acetic anhydride	R^{80}	R	R	No data			R	R^{30}					R	R	ND				R	R	ND				R	R	R
Acetone	R	R		R^{60}	R^{60}		R	R	R	R^{60}	R	ND							R^{15}	ND	ND				R^{17}	R	R
Other ketones	R^{13}	R	R	R^{60}	R^{60}		R^{13}_{80}	R	R	R^{30}_{60}	R														R^{17}	R	R
Acetylene	R	R^{80}		No data			R^{80}	R	R				R^{14}	R	R	R	ND	ND	R^{14}	R	R	ND	ND		No data		
Acid fumes	R^{2}	R	R	R^{2}	R^{2}	R^{2}	R^{2}	R	R	R^{2}	R	$R^{2,80}$	R^{2}	R	R	R^{2}			R	R	R^{2}	R^{2}	R^{2}		R^{2}	R	R
Alcohols (most fatty)	R	R		R^{60}	R^{60}		R^{30}_{60}	R	R	R^{60}	R		R	R	R^{14}	R	R	R	R	R	R	R^{4}	R^{4}		R	R	R^{30}
Aliphatic esters													No data												R^{30}	R	R
Alkyl chlorides																									R^{21}	R	R
Alum	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R		R	R	R
Aluminium chloride	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R		R	R	R^{4}
Ammonia, anhydrous	R	R	ND	R	R	ND	R	R	R	R^{80}			R	R	R	R	R		R^{10}	ND	ND	R^{80}			R	R	R
Ammonia, aqueous	R	R	R	R	R	R	R	R	R	R	R	R^{80}	R	R	R	R	R		R	R	R	R^{30}	R^{80}		R	R	R
Ammonium chloride	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R		R	R	R
Amyl acetate	R^{80}																								R^{21}	R	R
Aniline	R	R	ND																						R	R	R
Antimony trichloride	R	R	R	No data			R	R	R	R	R	R	No data			No data			R	R	R	ND	ND		R	R	R
Aqua regia																			R^{50}								
Aromatic solvents																R^{62}	R								R^{21}	R	R
Beer	R	R	R	R	R	R	R	R	R	R	R		R	R	R	R	R	R	R^{86}	R	R	R	R		R	R	R
Benzoic acid	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	No data			R	R		R	R	R
Boric acid	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R		R	R	R
Brines, saturated	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R		R	R	R
Bromine				No data																							
Calcium chloride	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R		R	R	R
Carbon disulphide																R	ND	ND				R	R		R	R	R
Carbonic acid	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R		R	R	R
Carbon tetrachloride																									R^{21}	R	R
Caustic soda & potash	R	R	R	R	R	R	R	R	R^{13}	R	R	R	R	R	R	R	R	R	R	R	R	R^{30}	R^{30}		R	R	R^{30}
Chlorates of Na, K, Ba	R	R	R	R	R	R	R	R	R	R	R	R	No data			No data			R	R	R	R	R		R	R^{30}	R
Chlorine, dry	R^{50}	R	R	R^{50}	R^{50}	R^{50}	R^{30}	R	R										No data						R	R	R
Chlorine, wet	R^{80}	R	R	R^{50}	R^{50}	R^{50}	R^{13}	R	R										R^{3}	ND	ND				R	R	R
Chlorides of Na, K, Mg	R	R	R	R	R	R	R	R	R	R	R	R^{80}	R	R	R	R	R	R	R	R	R	R	R		R	R	R
Chloroacetic acids	R^{10}						R^{2}	R	R				R	R	ND				R			R^{80}			R	R	R
Chlorobenzene																									R^{21}	R	
Chloroform																											
Chlorosulphonic acid	R^{13}	R^{13}		R^{13}	R^{13}		R^{13}	R	ND										No data			R^{30}	ND		No data		
Chromic acid (80%)																			R^{30}	R	ND				R^{19}	R	R
Citric acid	R	R	R	R	R	R	R	R	R	R	R		R	R	R	R	R	R	R	R	R	R	R		R	R	R
Copper salts (most)	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	ND	R	R	R	R	R		R	R	R
Cresylic acids (50%)	R^{4}			No data															R			ND	ND		R^{21}	R	R
Cyclohexane																R	R	R							R^{21}	ND	ND
Detergents, synthetic	R^{13}	R	R	R^{13}	R^{13}	R^{13}	R	R	R	R^{80}	R^{80}	R	R	R	R	R	R	R	R	R	R	R^{30}	R^{30}		R	R	R
Emulsifiers (all conc.)	R	R	R	No data			R	R^{4}	R^{4}	No data			R^{30}	R	R	R	R	R	R^{30}	R	R	ND	ND		R	R	R
Ether																R											
Fatty acids (>C_6)	R^{1}	R^{80}	R	R^{80}	R^{80}		R^{80}	R^{13}_{80}					R	R	R	R	R^{4}		R	R	R	R^{4}_{30}	R^{80}		R	R	R
Ferric chloride	R	R	R	R	R	R	R	R	R	R^{80}	R	R	R	R	R	R	R	R	R	R	R	R	R		R	R	R
Ferrous sulphate	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R		R	R	R
Fluorinated refrigerants, aerosols, e.g. *Freon*	R^{4}	ND	ND	No data No data			No data			No data			R^{30}	R	ND	R^{30}	R	R	R^{30}	ND	ND	ND ND	ND ND		ND	ND	
Fluorine, dry	R^{80}	ND	ND	R^{80}	ND	ND	R^{13}	R^{13}	ND				No data						No data								
Fluorine, wet	R^{80}	ND	ND	R^{80}	ND	ND	R^{13}	R^{13}	ND				No data						No data								
Fluosilicic acid	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	No data			R	R	R	R	R		R	R	R
Formaldehyde (40%)	R^{80}			R^{80}			R	R^{30}	R	R^{14}			R	ND	ND	R			R			ND	ND		R	R	R
Formic acid	R^{13}	R	R	R^{14}	R^{14}		R	R^{80}		R^{80}			R	R	R	R			R	R	R	R^{80}	R^{80}		R	ND	ND

MISCELLANEOUS

Concrete (s)			Glass (t)			Graphite (u)			Porcelain and Stoneware			Vitreous Enamel (w)			Wood (z)		
20°	60°	100°	20°	60°	100°	20°	60°	100°	20°	60°	100°	20°	60°	100°	20°	60°	100°
No data			No data			R	R	R	R	R	R	R	R	R	R	R	R
			R	R	R	R	R	R	R	R	R	R	R	R	R	R	
			R	R	R	R	R	R	R	R	R	R	R	R			
			No data			R	R	R	R	R	R	R	ND	ND			
R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
R	R	R	No data			R	R	R	R	R	R	R	R	R	R	R	R
R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	No data		
			R^{5}	R	R	R	R	R	R	R	R	R^{5}_{11}	R	ND			
R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	
			R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
			R	R	R	R	R	R	R	R	R	R	R	ND	R	R	
			R	R	R	R	R	R	R	R	R	R	R	R	R	R	
			R^{30}			R	R	R	R	R	R	R	R	ND			
No data			No data			R	R	R	R	R	R	R	R	R			
R	R	R	R	R	R^{50}	R	R	R	R	R	R	R	ND				
			R	R	R	R	R	R	R	R	R	R	ND		R	R	
			R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
No data			R			R	R	R	R	R	R	R	R	R	R	R	
No data			R	R	R	R	R	R	R	R	R	R	R	R			
			R	R	R				R	R	R	R	R	ND			
R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
R	R	R^{35}	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
No data			R	R	R	R	R	R	R	R	R	R	R	ND	R	R	R
R	R	R	R	R	R	R	R	R	R	R	R	R	R	ND	R	R	R
R	R	R	R	R	R	R	R	R	R	R	R	R	R	ND	R		
			R	R	R				R	R	R		No data				
R^{44}	R	R	R	ND	ND	R	R	R	R	R	R	R	ND		R	R	
R	R	R	R	ND	ND	R	R	R	R	R	R	R	R	R	R		
R^{50}	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
R^{72}	R	R	ND			R^{13}	R	R	R^{10}			R^{10}					
R	R	R	R	R	R	R	R	R	R	R	R		No data		R	ND	ND
No data			No data			R	R	R	R	R	R	R	R	R			
					ND				R	R	R	No data					
R^{12}	R	R	R	R	R	R	R	R	R	R	R	R	R		R	R	
			R	R	R	R	R	R	R	R	R	R	ND	ND			
R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	
R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
			No data			R	R	R	R	R	R	No data					
			R	R	ND				R	R	R	R	ND	ND			
			R	R	ND	R	R	R	R	R	R	R	R	R	R	R	
R^{51}	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
			No data			R	R	R	R	R	R	R	R	ND			
R	R	R	No data			R	R	R	R	R	R	R	R	R	R	R	R
R^{81}	R	R	R^{13}	R^{50}		R	R	R	R	R	R	R	R	R	R	R	
No data			R	R	R	R	R	R	R	R	R	R	R	R	R	R	
R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R		
			R	R	R	R	R	R	R	R	R	R	R	R	R	R	
			R	R	R	R^{13}	R	R	R	R	R	R	ND		R^{14}		
			R	R	R	R	R	R	R	R	R	R	ND		R^{14}		
R	R	R	No data			R	R	R	R^{39}	R	R	No data			R	R	R
No data						R	R	R				R	ND		No data		
No data						R	R	R				No data			No data		
R	R	R				R	R	R							No data		
R^{80}			R	R	R	R	R	R	R	R	R	R	R	R	R	R	
			R	R	R	R	R	R	R	R	R	R	R	R			

NOTES

Explanatory notes at lower temperatures may be taken to apply also at higher temperatures unless otherwise shown.

1 Not anhydrous
2 Depending on the acid
3 35%
4 Fair resistance
5 Not HF fumes
6 Up to 40%
7 Saturated solution
8 Pineapple and grapefruit juices 20°C
9 Photographic emulsions up to 20°C
10 10%
11 Anhydrous
12 Not Mg
13 Depending on concentration
14 Discoloration and/or swelling and softening
15 Up to 25%
16 Not chloride/not if chloride ions present
17 Not fluorinated silicone rubbers
18 Up to 60%
19 Up to 50%
20 Not aerated solutions
21 Fluorinated silicone rubbers only
22 ND for Mg
23 5%
24 Pure only
25 Up to 30%
26 If no iron salts or free chlorine
27 May crack under stressed conditions
28 45%
29 55%
30 Depending upon composition
31 Chloride
32 20%
33 Depending on alcohol
34 Data for sodium
35 Fresh
36 Over 85%
37 Some attack at high temperature
38 Neutral
39 Attacked by fluoride ions
40 Sulphate and nitrate
41 Softening point
42 In strong solutions only when inhibited
43 Depending on water conditions
44 Dilute
45 Up to 15%
46 Not methyl
47 Drawn wire
48 Some attack, but protective coating forms
49 Using anodic passivation techniques
50 Some attack/absorption/slow erosion
51 Not sulphate
52 70%
53 In absence of dissolved O_2 and CO_2
54 75%
55 80%
56 May cause stress cracking
57 Pitting possible in stagnant solutions
58 In presence of H_2SO_4
59 Not ethyl
60 May discolour liquid
61 The material can cause decomposition
62 Depending on type
63 95%
64 Slight plating will occur
65 Not recommended under certain conditions of temperature, etc.
66 65%
67 Aerated solution
68 Estimated effect
69 Up to 90%
70 Not oxidising conditions
71 Not lower members of series
72 Not high alumina cement concrete

RUBBERS

	Butyl Rubber and Halo-Butyl Rubber			Ethylene Propylene Rubber (q)			Hard Rubber (Ebonite) (h)			Soft Natural Rubber (h)			Neoprene (i)			Nitrile Rubber			Chlorosulphonated Polyethylene			Polyurethane Rubber (v)			Silicone Rubbers (k)		
	20°	60°	100°	20°	60°	100°	20°	60°	100°	20°	60°	100°	20°	60°	100°	20°	60°	100°	20°	60°	100°	20°	60°	100°	20°	60°	100°
Fruit juices	R^{80}	R^{80}		R^{60}	R^{60}		R^{65}	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R		R	R	R
Gelatine	R	R	R	R	R		R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R		R	R	R
Glycerine	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R		R	R	R
Glycols	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R^4	R	R	R	R	R		R	R	R
Hexamine	R	R	ND	No data			R	R	ND	R	R	ND	R	R^{37}	R	No data			R	R	R	ND	ND		No data		
Hydrazine	R	R	ND	R	ND	ND	R						R^{44}	ND	ND	R			No data			ND	ND		No data		
Hydrobromic acid (50%)	R	R	R	R	R	ND	R	R^{37}	R^{37}	R^{65}	R		R	ND	ND	R			R	R	ND	R^{15}	R^{15}_{80}				
Hydrochloric acid (10%)	R	R	R	R	R	R	R	R	R	R	R		R	R	R	R	R		R	R		R	R		R	R	R
Hydrochloric acid (conc.)	R^4	R	R	R	R^4	R^{80}	R	R^{37}	R^{37}	R	R^{80}		R	R^{95}	ND				R	R					R^{30}		
Hydrocyanic acid	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R			R	R	ND	R	R		No data		
Hydrofluoric acid (75%)				R^{30}	ND	ND							R						R	R	ND						
Hydrogen peroxide (30%)	R^{80}	R	R	R^{80}	ND	ND	R^{80}						R	R		R			R^{87}	R^{87}		R^4	ND		R	R	R
(30–90%)	R^{80}	R^{87}	ND				R^{87}						R	R					R^{87}	R^{87}					R^{30}	R	R
Hydrogen sulphide	R	R	R	R	R	R	R	R	R	R	R		R	R	ND				R	ND	ND	R	R		No data		
Hypochlorites	R^{30}	R^{80}	R	R	R	ND	$R^{30}_{1,3}$	R		$R^{80,76}_{1,3}$			R	R		R			R	R	R	R^{30}	ND		R	R	R
Lactic acid (100%)	R	R	ND	R	R	ND	R	R	R	$R^{14,80}$			R	R	R	R	R		R	R	R	R^{23}	R^{23}		R	R	R
Lead acetate	R	R	R	R	R	R	R	R	R	R^{80}	R	R	R	R	R	R	ND	ND	No data			R	R		R	R^{30}	R
Lime (CaO)	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R		R	R	R
Maleic acid	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	ND			No data			R	R		R	R	R
Meat juices	R	R	R	R	R	R	R^{13}	R	R	R^{13}	R	R	R	R	R	R	R	R	R	R	R	R	R		R	R	R
Mercuric chloride	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R		R	R	R	R	R		R	R	R
Mercury	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R		R	R	R
Milk & its products	R^{80}	R	R	R^{80}	R^{80}		R	R	R				R	R	R	R	R	R	R	R		R	R		R	R	R
Moist air	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R		R	R	R
Molasses	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	ND	ND	R^{86}	R	R	R	R		R	R	R
Naphtha																R	R		R^{38}						R^{21}	R	R
Naphthalene																									R^{21}	R	R
Nickel salts	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R		R	R	R
Nitrates of Na, K, NH_3	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R		R	R	R
Nitric acid (<25%)	R^{23}	R^{23}	R^{23}				R^{101}	R		R^{101}			R	R		R			R	R					R	R	R
Nitric acid (50%)																			R	R					R^{21}		
Nitric acid (95%)																			R						R		
Nitric acid, fuming																			R^{89}								
Oils, essential	R^{14}	R	ND	R^{60}	ND	ND	R^{14}			No data			R^{14}	ND	ND	R^4	R^4		R^{30}			R	R		R^{30}	R	R
Oils, mineral				R^{80}	R^{80}	R^{80}							R	ND	ND	R	R	R	R^{30}			R	R		R^{30}	R	R
Oils, vegetable & animal	R	R^{14}		R^{14}	R^{14}		R^{80}	R	R	R^{14}	R		R^{14}	ND	ND	R	R	R	R^{30}			R	R		R	R	R
Oxalic acid	R	R	R	No data			R	R	R	R^{80}	R	R	R	R	R	R	R		R	ND	ND	ND	ND		R	R	R
Ozone	R	R		R	R		R	R	R				R	R	R	R^{30}			R	R	R	R	R		R	R	R
Paraffin wax	R	R	R	R	R	ND	R	R	R	R	R^{14}		R	R	R	R	R	R	R	R	R	R	R		R	R	R
Perchloric acid	R			R															No data			ND	ND		No data		
Phenol	R	R^{80}	ND	R^{80}			R^{13}_{80}	R																	R	R	R
Phosphoric acid (25%)	R	R	R	R	R	R	R	R	R^{60}	R	R	R^{60}	R	R	R	R	R	ND	R	R	R	R	R		R	R	R
Phosphoric acid (50%)	R	R	R	R	R	R	R	R	R^{60}	R	R	R^{60}	R	R	R	R			R	R	R	R	R		R^{30}	R	R
Phosphoric acid (95%)	R	R	R	R	R	R	R^{36}	R	R^{60}	R^{36}	R	R^{60}	R	R	R	R			R	R	R				R^{30}	R	R
Phosphorus chlorides	R			No data			No data			No data			No data									ND	ND		No data		
Phosphorus pentoxide	R	R	ND	R	R	ND	R	R		R	R		R	R	R				No data			ND	ND		R	R	R
Phthalic acid	R^{13}	R	R	R^{13}	R^{13}	ND	R^{80}	R^{80}	R^{80}				R	R	R	R	ND	ND	No data			R	ND		R	R	R
Picric acid	R^{80}	R	R	No data			R	R^{30}	R	R	R^{30}		R	R	R	R^{13}			R	R	R	ND	ND		No data		
Pyridine	R^4																								No data		
Sea water	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R		R	R	R
Silicic acid	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	ND			R	R	R	R	R		R	R	R
Silicone fluids	R	R	ND	No data			R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	ND		R^{21}_{30}	R	R
Silver nitrate	R	R	R	R^{60}	R^{60}	R^{60}	R^{61}			R^{80}	R		R	R	R	R	R	ND	R	R	R	R	R		R	R	R
Sodium carbonate	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R		R	R	R
Sodium peroxide	R	R	R	R	R	ND	R^{13}	R		R^{80}	R^{80}	ND	R	R^{97}	ND	R^{13}			R	R	R	ND	ND		R	R	R

MISCELLANEOUS

Concrete (s)			Glass (t)			Graphite (u)			Porcelain and Stoneware			Vitreous Enamel (w)			Wood (y)		
20°	60°	100°	20°	60°	100°	20°	60°	100°	20°	60°	100°	20°	60°	100°	20°	60°	100°
			R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
			R	R	R	R	R	R	R	R	R	R	R	R	R		
			R	R	R	R	R	R	R	R	R	R	R	R	R		
	No data		R	ND	ND	R	R	R	R	R	R	R	R	R	R	R	R
	No data		R	R	R	R	R	R	R	R	R	R	R	R		No data	
			R	R	R^{50}	R	R	R	R	R	R		No data				
			R	R	R^{50}	R	R	R	R	R	R	R	R	R	R		
			R	R	R^{50}	R	R	R	R	R	R	R	R	ND			
			R	R		R	R	R	R	R	R	R	ND	ND	R	R	
						R	R	R									
						R	R	R									
	No data		R	R	R	R	R	R	R	R	R	R	R	R			
	No data		R	R	R	R	R	R	R	R	R	R	R	R			
						R	R	R	R	R	R	R	R	R	R	R	R
R^{72}	R	R	R	R	R	R	R^{37}	R^{37}	R	R	R	R	R	ND			
				No data		R	R	R	R	R	R	R	R	R	R		
	No data		R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
R	R	R	R	R	R	R	R	R	R	R	R	R	R	ND	R^{14}		
	No data			No data		R	R	R	R	R	R	R	R	R	R	R	R
	No data		R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
			R	R	R	R	R	R	R	R	R		No data		R	R	
R	R	R	R	R	R	R	R	R	R	R	R	R	R	ND	R	R	R
R^{35}	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R^{14}	R^{14}	R^{14}
R			R	R	R	R	R	R	R	R	R	R	R	R	R	R	
R	R	R		No data		R	R	R	R	R	R	R	R	R	R	R	R
R	R	R		No data		R	R	R	R	R	R	R	R	R	R	R	R
	No data		R	R	R	R	R	R	R	R	R		No data		R	R	R
R^{73}	R	R	R	ND	ND	R	R	R	R	R	R	R	ND	ND	R	R	
			R	R	R^{50}	R	R	R	R	R	R	R	R	R			
			R	R	R^{50}				R	R	R	R	R	ND			
			R	R	R^{50}				R	R	R	R	R	ND			
			R	R	R^{50}				R	R	R	R	ND	ND			
	No data		R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
			R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R		
R	R	R	R	R	R				R	R	R		No data			No data	
R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
			R	R	R	R^{15}	R^{10}		R	R	R		No data				
			R	ND	ND	R	R	R	R	R	R	R	R	R			
			R	R	R	R	R	R	R	R	R	R	R	R			
			R	R	R	R	R	R	R	R	R	R	R	ND			
			R	R	R	R	R	R	R	R	R^4	R	R	ND			
			R	ND	ND	R	R	R	R	R	R		No data				
			R	R	R	R	R	R	R	R	R		No data				
			R	R	R	R	R	R	R	R	R	R	R	R	R	R	
			R	R	R	R	R	R	R	R	R	R	R	R		No data	
	No data		R	R	R	R	R	R	R	R	R	R	R	R	R^{14}		
R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
R	R	R	R	R	ND	R	R	R	R	R	R	R	R	ND	R	R	R
R^{74}	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
	No data		R	R	R	R	R	R	R	R	R	R	R	R	R	R	
R^{72}	R	R	R			R	R	R	R	R	R	R	R	R			
R^{72}	R	R	R	ND	ND		No data		R	R	R		No data				

73 Not ammonium
74 Not chlorsilanes
75 Data for ammonium
76 Data for calcium
77 Data for potassium
78 In presence of heavy metal ions
79 ND for Ba
80 Limited service
81 Except those containing sulphate
82 Provided less than 70% copper
83 Water less than 150 ppm
84 May cause some localised pitting
85 60% in one month
86 Low taste and odour
87 Catalyses decomp. of H_2O_2
88 65%
89 1 – 2 days
90 Wet gas
91 Less than 0 – 005% water
92 In absence of heavy metal ions oxidising agents
93 Stress corrosion in MeOH and halides (not in other alcohols)
94 When free of SO_2
95 50% swell in 28 days
96 60% swell in 3 days
97 Could be dangerous in black loaded compounds
98 Not alkaline
99 Ozone 2% Oxygen 98%
100 This is the softening point
101 Nitric acid less than 5% concentration
102 Acid fumes dry. Attack might occur if moisture present and concentrated condensate built up
103 Stainless steels not normally recommended for caustic applications
104 In the absence of impurities
105 10% w/w in alcohol
106 Swelling with some ketones
107 Some stress cracking at high pH

(*a*) **Aluminium**: In many cases where the chart indicates that aluminium is a suitable material there is some attack, but the corrosion is slight enough to allow aluminium to be used economically.

(*b*) **Brass**: Some types of brass have less corrosion resistance than is shown on the chart, others have more, e.g. Al brass.

(*c*) **Cast iron**: This is considered to be resistant if the material corrodes at a rate of less than 0.25 mm per annum. When choosing cast iron, Ni-Resist or high Si iron for a particular application the very different physical properties of these materials must be taken into account.

(*d*) **Gunmetal**: The data refer only to high tin gunmetals.

(*e*) **Nickel-copper alloys**: The physical properties are for annealed material. Both the tensile strength and hardness can vary with form and heat treatment condition.

(*f*) **Stainless steels**: Less expensive 13% chromium steels may be used for some applications instead of 18/8 steels. Under certain conditions the addition of titanium increases the corrosion resistance of 18/8 steels. Also, it produces materials which can be welded without the need for subsequent heat treatment. These steels are, however, inferior in corrosion resistance to the more expensive 18/8/Mo steels.

(*g*) **Tin**: Data refer to pure or lightly alloyed tin; not to discontinuous tin coatings.

(*h*) **Soft natural rubber and ebonite**: Performance at higher temperatures depends on method of compounding.

(*i*) **Neoprene**: Brush or spray applied 1.5 mm thick, and properly cured.

(*k*) **Silicone rubbers**: Withstand temperatures ranging from −90°C to above 250°C and are resistant to many oils and chemicals. In some cases particularly good resistance is shown by the fluorinated type.

RUBBERS

	Butyl Rubber and Halo-Butyl Rubber			Ethylene Propylene Rubber (q)			Hard Rubber (Ebonite) (h)			Soft Natural Rubber (h)			Neoprene (i)			Nitrile Rubber			Chlorosulphonated Polyethylene			Polyurethane Rubber (v)			Silicone Rubbers (k)		
	20°	60°	100°	20°	60°	100°	20°	60°	100°	20°	60°	100°	20°	60°	100°	20°	60°	100°	20°	60°	100°	20°	60°	100°	20°	60°	100°
Sodium silicate	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	ND	R	R	R	R	R		R	R	R
Sodium sulphide	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	ND	No data			R	ND		R	R	R
Stannic chloride	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R		R	R	R
Starch	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R		R	R	R
Sugar, syrups, jams	R^{13}	R	R	R^{60}	R^{60}	R^{60}	R^{13}	R	R	R^{13}	R	R	R	R	R	R	R	R	R	R	R	R	R		R	R	R
Sulphamic acid	No data			R	R	ND	R^{13}	R		No data			R	ND	ND	No data			R	R	R	R	R		No data		
Sulphates (Na, K, Mg, Ca)	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R		R	R	R
Sulphites	R	R	R	R	R	R	R	R	R	R^{80}	R^{80}		R	R	R	R	R	R	R	R	R	R	R		R	R	R
Sulphonic acids	R^{13}	R		R^{13}	R^{13}	R^{13}	R^{2}	R^{2}	R^{2}				R	R	R	ND			R	R	R	R	ND		No data		
Sulphur	R	R	R	R	R	R	R	R	R	R			R	R	R	R^{30}	R	R	R	R	R	ND	ND		R	R	R
Sulphur dioxide, dry	R	R	R	R	R	R	R	R	R				R	R	R							ND	ND		R	R	ND
Sulphur dioxide, wet	R	R	R	R	R	R	R	R	R^{4}				R	R	R				R^{4}	R	R	ND	ND		R	R	ND
Sulphur trioxide																No data									R	R	R
Sulphuric acid (<50%)	R	R	R	R	R	R	R	R	R	R	R		R	R		R			R	R	R	R^{25}	R^{25}_{80}		R	R	R
Sulphuric acid (70%)				R^{80}			R^{66}						R						R	R					No data		
Sulphuric acid (95%)																			R								
Sulphuric acid, fuming																											
Sulphur chlorides																No data			No data								
Tallow	R	R	R^{4}	R	R^{4}	ND	R	R	R	R	R		R	R	R	R	R	R	R	R	R	R	ND		R^{30}	R	R
Tannic acid (10%)	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R		R	R	R	R	R		R	R	R
Tartaric acid	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R		R	R	R	R	R		R	R	R
Trichlorethylene																R^{65}									R^{21}	R	R
Vinegar	R	R	R	R	R^{14}		R	R	R	R^{80}	R		R	R	R	R	R^{37}	R	R	R	R	R^{80}	R^{80}		R	R	R
Water, distilled	R	R	R	R	R	R	R^{30}	R	R	R^{30}	R	R	R	R	R	R	R	R	R	R	R	R	R		R	R	R
Water, soft	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R		R	R	R
Water, hard	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R		R	R	R
Yeast	R	R	R	No data			R	R	R	R	R	R	R	R	R	R	ND	ND	R	R	R	ND	ND		R	R	R
Zinc chloride	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	ND	R	R	R	R	R		R	R	R

MISCELLANEOUS

Concrete (s)			Glass (t)			Graphite (u)			Porcelain and Stoneware			Vitreous Enamel (w)			Wood (z)		
20°	60°	100°	20°	60°	100°	20°	60°	100°	20°	60°	100°	20°	60°	100°	20°	60°	100°
R	R	R				R	R	R	R	R	R	No data			R		
			R	R	R	R	R	R	R	R	R	No data					
			R	R	R	R	R	R	R	R	R	R	R	R			
R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
			R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
	No data		R	R	R	R	R	R	R	R	R	No data				No data	
			R	R	R	R	R	R	R	R	R	R	R	ND	R	R	
			R	R	R	R	R	R	R	R	R	R	R	R	R		
			R	R	R	R	R	R	R	R	R	R	R	ND			
R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	
	No data		R	R	ND	R	R	R	R	R	R	R	R	R			
			R	R		R	R	R	R	R	R	R	R	R			
			R	R	R				R	R	R	R	R	R			
			R	R	R	R	R	R	R	R	R	R	R	R	R[10]		
			R	R	R	R	R	R	R	R	R	R	R	R			
			R	R	R	R[2]	R		R	R	R	R	R	R			
			R	R	R				R	R	R	R	ND	ND			
	No data		R	R	R	R	R	R	R	R	R	R	R	ND		No data	
				No data		R	R	R	R	R	R	R	R	R	R	R	R
R[80]			R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
			R	ND	ND	R	R	R	R	R	R	R	R	R	R	R	R
R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
			R	R	R	R	R	R	R	R	R	R	R	R	R	R	
R[50]	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
R[50]	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
			R	ND	ND	R	R	R	R	R	R	R	R	ND			

(*l*) **Acrylonitrile butadiene styrene resins**: The information refers to a general purpose moulding grade material.

(*m*) **Nylon**: Prolonged heating may cause oxidation and embrittlement. Data on nylon 66 plastics refer to *Maranyl* products. Other nylons, such as types 6 and 610, can behave differently, e.g. towards aqueous solutions of salts.

(*n*) **P.T.F.E.**: Is attacked by alkali metals (molten or in solution) and by certain rare fluorinated gases at high temperatures and pressures. Some organic and halogenated solvents can cause swelling and slight dimensional changes but the effects are physical and reversible.

(*o*) **Melamine resins**: The information refers mainly to laminates surfaced with melamine resins. Melamine coating resins are always used in conjunction with alkyd resins and the specifications will depend on the alkyd resin used.

(*p*) **Epoxy resins**: Data are for cold curing systems.

(*q*) The information given is based on compounds made from ethylene propylene terpolymer rubber.

(*r*) **Phenol formaldehyde resins**: These are of several types and care should be taken that the right type is chosen.

(*s*) **Concrete**: Usually made from Portland cement, but if made from Ciment Fondu or gypsum slag cement might have superior resistance in particular applications.

(*t*) **Glass**: The information refers to heat-resistant borosilicate glass.

(*u*) **Graphite**: Data refer to resin-impregnated graphite. Other specially treated graphites have improved corrosion resistance to many chemicals.

(*v*) Chemical resistance of polyurethanes is dependent on the particular structure of the material and is not necessarily applicable to all polyurethanes. Specially designed polyurethanes can be used at higher temperatures than 60°C but chemical resistance is temperature dependent.

(*w*) **Vitreous enamel**: Special enamels may be required to withstand particular reagents.

(*x*) Data is based on Ferralium alloy 255.

(*y*) Data is based on Solef.

(*z*) **Wood**: The behaviour of wood depends both on the species used and on the physical conditions of service. Aqueous solutions of some chemicals may cause more rapid degradation. Organic solvents may dissolve out resins, etc. Hydrogen peroxide (over 50% w/w) produces a fire risk.