

CORROSION RESISTANCE OF SILICONE RUBBERS

This list does not pretend to be exhaustive but does give an indication of the resistance of silicone rubbers to various common chemicals, solvents, foodstuffs, etc.

Key: "R" - Resistant to

"ND" - No data

A blank indicates that silicone rubber is not suitable for use under the conditions shown.

	20°C	60°C	100°C		20°C	60°C	100°C
Acetaldehyde	R	R	R	Caustic Soda Potash	R	R	R
Acetic Acid 10%	R	R	R	Chlorates of Na, K, Ba	R	R ³	R
Acetic Acid (glacial & anhydrous)	R ¹	R	R	Chlorine (dry)	R	R	R
Acetic Anhydride	R	R	R	Chlorine (wet)	R	R	R
Acetone	R ¹	R	R	Chlorides of Na, K, Mg	R	R	R
Other Keytones	R ¹	R	R	Chloroacetic Acid	R	R	R
Acid Fumes	R ⁴	R	R	Chlorobenzene	R	R	
Alcohols (mostly fatty)	R	R	R	Chloroform	R ³	R	
Aliphatic Esters	R ³	R	R	Chromic Acid 80%	R ⁵	R	R
Alkyl Chlorides	R ²	R	R	Citric Acid	R	R	R
Alum	R	R	R	Copper Salts (most)	R	R	R
Aluminium Chloride	R	R	R	Cresylic Acid	R ²	R	R
Ammonia (anhydrous) <small>GAS OK</small>	R	ND	ND	Cyclohexane	R ²	ND	ND
Ammonia (aqueous)	R	R	R	Detergents (synthetic)	R	R	R
Ammonium Chloride	R	R	R	Emulsifiers (all conc.)	R	R	R
Amyl Acetate	R ²	R	R	Ether			
Aniline	R	R	R	Fatty Acids >C6	R	R	R
Antimony Trichloride	R	R	R	Ferric Chloride	R	R	R
Aqua Regia				Ferrous Sulphate	R	R	R
Aromatic Solvents	R ²	R	R	Fluorinated Refrigerants			
Beer	R	R	R	Aerosols eg Freon	R ^{2,7}		
Benzoic Acid	R	R	R	Fluorine (dry)			
Boric Acid	R	R	R	(wet)			
Brines (saturated)	R	R	R	Fluosilicic Acid	R	R	R
Bromine				Formaldehyde (40%)	R	R	R
Calcium Chloride	R	R	R	Formic Acid	R	ND	ND
Carbon Disulphide	R	R	R	Fruit Juices	R	R	R
Carbonic Acid	R	R	R	Gelatine	R	R	R
Carbon Tetrachloride	R ²	R	R	Glycerine	R	R	R
				Glycols	R	R	R

	20°C	60°C	100°C		20°C	60°C	100°C
Hydrobromic Acid (50%)				Paraffin Wax	R	R	R
Hydrochloric Acid 10%	R	R	R	Phenol	R	R	R
Hydrochloric Acid (conc)	R ³			Phosphoric Acid 35%	R	R	R
Hydrofluoric Acid 40%				Phosphoric Acid 50%	R ³	R	R
Hydrofluoric Acid 75%				Phosphoric Acid 95%	R ³	R	R
Hydrogen Peroxide 30%	R	R	R	Phosphorous Pentoxide	R	R	R
Hydrogen Peroxide 30-90%	R ³	R	R	Phthalic Acid	R	R	R
Hypochlorites	R	R	R	Sea Water	R	R	R
Lactic Acid 100%	R	R	R	Silicic Acid	R	R	R
Lead Acetate	R	R ³	R	Silicone Fluids	R ^{2,3}	R	R
Lime (CaO)	R	R	R	Silver Nitrate	R	R	R
Maleic Acid	R	R	R	Sodium Carbonate	R	R	R
Meat Juices	R	R	R	Sodium Peroxide	R	R	R
Mercuric Chloride	R	R	R	Sodium Sulphide	R	R	R
Mercury	R	R	R	Stannic Chloride	R	R	R
Milk and its products	R	R	R	Starch	R	R	R
Moist Air	R	R	R	Sugar, Syrups, Jams	R	R	R
Molasses	R	R	R	Sulphates, Na,K,Mg,Co	R	R	R
Naptha	R ²	R	R	Sulphites	R	R	R
Napthalene	R ²	R	R	Sulphur	R	R	R
Nickel Salts	R	R	R	Sulphur Dioxide (dry)	R	R	ND
Nitrates Na,K, NH ₃	R	R	R	Sulphur Dioxide (wet)	R	R	ND
Nitric Acid 25%	R	R	R	Sulphur Trioxide	R	R	R
Nitric Acid 50%	R ²			Sulphuric Acid 50%	R	R	R
Nitric Acid 95% fuming	R ²			Sulphuric Acid 95%			
Oils (essential)	R ³	R	R	Sulphuric Acid (Fuming)			
Oils (mineral)	R ³	R	R	Sulphur Chlorides			
Oils (veg & animal)	R	R	R	Tallow	R ³	R	R
Oxalic Acid	R	R	R	Tannic Acid 10%	R	R	R
Ozone	R	R	R	Tartaric Acid 10%	R	R	R
				Trichloroethylene	R ²	R	R
				Vinegar	R	R	R
				Water	R ⁶	R	R
				Yeast	R	R	R
				Zinc Chloride	R	R	R

Notes

Explanatory notes at low temperatures may be taken to be true also of high temperatures unless otherwise stated.

1. Not fluorinated silicone rubbers
2. Fluorinated silicone rubbers only
3. Depending on the composition or specification of the material
4. Depending on the acid

5. Up to 50%
6. Hard, Soft or Distilled
7. Fair resistance