

The data below is taken from two Flowserve publications, (i) Guide to the Selection of Corrosion Resisting Alloys and (ii) Guide to the Selection of Corrosion Resisting Non-Metallics.

Transport medium	Wetted Material		Wetted Material		Wetted Material		Wetted Material		Wetted Material		Wetted Material		Wetted Material		Wetted Material		Wetted Material		Wetted Material		Wetted Material	
	PTFE / PFA / FEP		ETFE		D730 (Glass Fibre Reinforced Epoxy Resin)		Durcon 6 (Epoxy Resin)		UHMWPE (Polyethylene)		Polypropylene		PSZ (Polyester)		Polybase (Polyethylene)		FKM (Synthetic Rubber)		CSM (Synthetic Rubber)		EPDM (Synthetic Rubber)	
	Weight %	Max Temp	Weight %	Max Temp	Weight %	Max Temp	Weight %	Max Temp	Weight %	Max Temp	Weight %	Max Temp	Weight %	Max Temp	Weight %	Max Temp	Weight %	Max Temp	Weight %	Max Temp	Weight %	Max Temp
Acetic Anhydride (CH3CO)2O	100%	125 degC	100%	125 degC	100%	50 degC	100%	50 degC	100%	20 degC	100%	20 degC	100%	100 degC	Not Suitable	Not Suitable	Not Suitable	ALL	75 degC	Not Suitable	Not Suitable	
Ammonia - Anhydrous NH3	100%	125 degC	100%	125 degC	100%	50 degC	100%	50 degC	100%	20 degC	ALL	75 degC	Not Suitable	Not Suitable	Not Suitable	Not Suitable	ALL	75 degC	Not Suitable	ALL	50 degC	
Bromine, dry Br	100%	100 degC	100%	50 degC	Not Suitable	Not Suitable	Not Suitable	Not Suitable	Not Suitable	Not Suitable	Not Suitable	Not Suitable	ALL	100 degC	Not Suitable	Not Suitable	ALL	75 degC	Not Suitable	Not Suitable	Not Suitable	
Bromine, wet Br	ALL	100 degC	ALL	100 degC	Not Suitable	Not Suitable	Not Suitable	Not Suitable	Not Suitable	Not Suitable	Not Suitable	Not Suitable	ALL	100 degC	Not Suitable	Not Suitable	ALL	50 degC	Not Suitable	Not Suitable	Not Suitable	
Hydrobromic Acid HBr	50%	100 degC	50%	100 degC	40%	75 degC	50%	50 degC	50%	50 degC	50%	75 degC	0-50%	Boiling	0-50%	75 degC	Not Suitable	20-100%	100-20degC	20-40%	50-20degC	
Hydrochloric Acid HCL	ALL	Boiling	ALL	Boiling	ALL	Boiling	ALL	100 degC	ALL	50 degC	Not Suitable	Not Suitable	ALL	100 degC	ALL	75 degC	20-40%	100-50degC	20-40%	100-50degC	20-40%	50-20degC
Hydrofluoric Acid HF	ALL	Boiling	ALL	Boiling	Not Suitable	Not Suitable	Not Suitable	Not Suitable	70%	50 degC	0-60%	75 degC	Not Suitable	Not Suitable	0-20%	50 degC	0-50%	75 degC	ALL	20 degC	0-50%	20 degC
Methyl Ethyl Ketone CH3COCH2CH3	ALL	Boiling	ALL	100 degC	Not Suitable	Not Suitable	Not Suitable	Not Suitable	Not Suitable	Not Suitable	10%	20 degC	Not Suitable	Not Suitable	Not Suitable	Not Suitable	Not Suitable	Not Suitable	Not Suitable	ALL	75 degC	
Nitric Acid HNO3	ALL	Boiling	50%	50 degC	10%	50 degC	Not Suitable	Not Suitable	Not Suitable	Not Suitable	Not Suitable	Not Suitable	ALL	100 degC	0-20%	50 degC	0-50%	50 degC	0-30%	20 degC	Not Suitable	Not Suitable
Sea Water	100%	125 degC	100%	125 degC	100%	50 degC	100%	20 degC	100%	50 degC	100%	100 degC	100%	100 degC	100%	100 degC	ALL	100 degC	ALL	75 degC	ALL	75 degC
Sodium Hydroxide NaOH	ALL	125 degC	ALL	50 degC	30%	50 degC	30%	50 degC	ALL	75 degC	ALL	75 degC	0-60%	Boiling	0-50%	75 degC	0-40%	20 degC	ALL	125 degC	0-70%	20 degC
Sulfuric Acid, 0-50% H2SO4	ALL	Boiling	ALL	125 degC	10%	50 degC	50%	50 degC	50%	50 degC	0-50%	75 degC	0-50%	Boiling	0-50%	100 degC	0-50%	125 degC	0-50%	125 degC	10%	50 degC
Sulfuric Acid, 50-100% H2SO4	ALL	Boiling	ALL	125 degC	Not Suitable	Not Suitable	50-70%	50 degC	50-100%	20 degC	50-90%	50 degC	50-90%	20 degC	50-70%	75 degC	50-100%	125 degC	50-100%	75 degC	Not Suitable	Not Suitable
Transport medium	Wetted Material		Wetted Material		Wetted Material		Wetted Material		Wetted Material		Wetted Material		Wetted Material		Wetted Material		Wetted Material		Wetted Material		Wetted Material	
	Carbon Steel		Stainless Steel		CD-4MCuN (Durcomet 100) Stainless Steel		Austenitic nickel-chromium-alloy (Inconel CY-40)		Nickel based Alloy (Monel M-35-1)		Neoprene Rubber/PTFE sleeve (Duriron)		High Silicon Iron (Durichlor 51 / SuperChlor 77)		Cobalt Alloy (Stellite 6)		Titanium (Durco DC-8)		Titanium		Zirconium 702 Zirconium 705	
	Weight %	Max Temp	Weight %	Max Temp	Weight %	Max Temp	Weight %	Max Temp	Weight %	Max Temp	Weight %	Max Temp	Weight %	Max Temp	Weight %	Max Temp	Weight %	Max Temp	Weight %	Max Temp	Weight %	Max Temp
Acetic Anhydride (CH3CO)2O	Not Suitable	Not Suitable	Not Suitable	Not Suitable	ALL	125 degC	ALL	100 degC	ALL	100 degC	ALL	100 degC	ALL	100 degC	ALL	100 degC	Not Suitable	ALL	100 degC	ALL	100 degC	
Ammonia - Anhydrous NH3	100%	100 degC	100%	125 degC	100%	125 degC	100%	125 degC	Not Suitable	Not Suitable	100%	20 degC	100%	20 degC	100%	20 degC	Not Suitable	Not Suitable	100%	125 degC	100%	125 degC
Bromine, dry Br	Not Suitable	Not Suitable	Not Suitable	Not Suitable	100%	20 degC	100%	100 degC	100%	50 degC	Not Suitable	Not Suitable	Not Suitable	Not Suitable	Not Suitable	Not Suitable	Not Suitable	Not Suitable	Not Suitable	Not Suitable	Not Suitable	
Bromine, wet Br	Not Suitable	Not Suitable	Not Suitable	Not Suitable	Not Suitable	Not Suitable	Not Suitable	Not Suitable	Not Suitable	Not Suitable	Not Suitable	Not Suitable	Not Suitable	Not Suitable	Not Suitable	Not Suitable	Not Suitable	ALL	20 degC	Not Suitable	Not Suitable	
Hydrobromic Acid HBr	Not Suitable	Not Suitable	Not Suitable	Not Suitable	Not Suitable	Not Suitable	Not Suitable	Not Suitable	Not Suitable	Not Suitable	0-40%	20 degC	0-40%	50 degC	Not Suitable	Not Suitable	Not Suitable	0-40%	50 degC	Not Suitable	Not Suitable	
Hydrochloric Acid HCL - aerated	Not Suitable	Not Suitable	Not Suitable	Not Suitable	Not Suitable	Not Suitable	Not Suitable	Not Suitable	Not Suitable	Not Suitable	0-40%	20 degC	0-40%	50 degC	Not Suitable	Not Suitable	10%	75 degC	100%	20 degC	0-40%	75 degC
Hydrochloric Acid HCL - non-aerated	Not Suitable	Not Suitable	Not Suitable	Not Suitable	Not Suitable	Not Suitable	10%	20 degC	0-30%	20 degC	0-40%	50 degC	0-40%	50 degC	Not Suitable	Not Suitable	10%	75 degC	100%	20 degC	0-40%	100 degC
Hydrofluoric Acid HF - aerated	Not Suitable	Not Suitable	Not Suitable	Not Suitable	Not Suitable	Not Suitable	Not Suitable	Not Suitable	Not Suitable	Not Suitable	Not Suitable	Not Suitable	Not Suitable	Not Suitable	Not Suitable	Not Suitable	Not Suitable	Not Suitable	Not Suitable	Not Suitable	Not Suitable	
Hydrofluoric Acid HF - non-aerated	Not Suitable	Not Suitable	Not Suitable	Not Suitable	Not Suitable	Not Suitable	Not Suitable	Not Suitable	ALL	125 degC	Not Suitable	Not Suitable	Not Suitable	Not Suitable	Not Suitable	Not Suitable	Not Suitable	Not Suitable	Not Suitable	Not Suitable	Not Suitable	
Methyl Ethyl Ketone CH3COCH2CH3	ALL	100 degC	ALL	20 degC	ALL	100 degC	ALL	100 degC	ALL	100 degC	ALL	100 degC	ALL	100 degC	ALL	100 degC	ALL	20 degC	ALL	100 degC	ALL	100 degC
Nitric Acid HNO3 <70%	Not Suitable	Not Suitable	0-70%	50 degC	0-70%	125 degC	0-50%	20 degC	Not Suitable	Not Suitable	0-70%	50 degC	0-70%	50 degC	0-50%	20 degC	0-70%	Boiling	0-70%	125 degC	0-70%	125 degC
Nitric Acid HNO3 >70%	Not Suitable	Not Suitable	Not Suitable	Not Suitable	70-90%	100 degC	Not Suitable	Not Suitable	Not Suitable	Not Suitable	100%	75 degC	100%	75 degC	Not Suitable	Not Suitable	Not Suitable	Not Suitable	Not Suitable	100%	100 degC	
Sea Water	Not Suitable	Not Suitable	Not Suitable	Not Suitable	100%	50 degC	100%	20 degC	100%	50 degC	100%	75 degC	100%	75 degC	100%	20 degC	ALL	100 degC	100%	125 degC	100%	100 degC
Sodium Hydroxide NaOH	0-50%	50 degC	0-30%	100 degC	ALL	125 degC	ALL	100 degC	ALL	Boiling	0-50%	75 degC	0-50%	75 degC	10%	20 degC	ALL	125 degC	0-70%	125 degC	ALL	100 degC
Sulfuric Acid, >70% H2SO4	Not Suitable	Not Suitable	Not Suitable	Not Suitable	10%	100 degC	Not Suitable	Not Suitable	0-60%	100 degC	0-70%	75 degC	0-70%	100 degC	0-70%	20 degC	0-70%	75 degC	Not Suitable	Not Suitable	0-70%	100 degC
Sulfuric Acid, <70% H2SO4	Not Suitable	Not Suitable	Not Suitable	Not Suitable	80-100%	50 degC	Not Suitable	Not Suitable	Not Suitable	Not Suitable	70-100%	125 degC	70-100%	125 degC	70-100%	20 degC	70-90%	75 degC	Not Suitable	Not Suitable	Not Suitable	Not Suitable