

Chemical Resistance Chart

Read this chart along with our catalog for your safety use of PISCO products.

*The information in this chart is a general experimental value of the material but not a guaranteed value. This chart should be used only as a guide in selecting equipment for chemical compatibility testing. Always test the equipment with the specific chemicals under the specific conditions of your application. Variations in temperature, pressure, and concentration can cause equipment to fail, even though it passed an initial test.

 Safety cautions

- 1.The information in this chart is a general experimental value of the material but not a guaranteed value.
- 2.Upon using a chemical, always test the equipment with the specific chemicals under the specific conditions of your application by referring to this chart.
- 3.Unless otherwise stated, the concentration of chemical solution is saturation and the test temperature is room temperature.

Codes in Table

Code	Description
S	Superior: No effect or mostly no effect on material
G	Good: Minor effect (problem may occur depending on a condition)
F	Fair: Moderate effect (need keen attention for use)
N	No good: Severe effect (not recommended for use)
—	No data available

Major Material List

Resin

Material Code	Material Name	Typical application on PISCO products
PBT	Poly butylene terephthalate	Resin body of push-in fitting
POM	Poly oxy methylene (acetal/polyacetal)	Release-ring
PPS	Poly phenylene sulfide	Chemical type (PPS) fitting
PCTG	Glycol modified polycyclohexylene-di-methylene-terephthalate	Filter cover of vacuum generator
PP	Poly propylene	PP type push-in fitting, speed controller, throttle valve
ABS	Acrylonitrile butadiene styrene resin	Cover of Air pincette
PA6	Poly amide 6 (Nylon)	Air pincette, main body of Plarailchain
PEEK	Polyetheretherketone(peek)	Vacuum pad mark-free

Rubber, Pad

Material Code	Material Name	Typical application on PISCO products
NBR	Acrylonitrile butadiene rubber	Rubber seal of push-in fittings, Vacuum pad (nitrile), etc.
HNBR	Hydrogenated acrylonitrile butadiene rubber	Rubber seal of SUS303 like corrosivity fitting and speed controller
EPDM	Ethylene propylene diene terpolymer	Rubber seal of PP type fitting, speed controller, throttle valve
FKM	Fluorocarbon rubber	Rubber seal of chemical type (PPS) fitting
CR	Polychloroprene	Sponge pad
AU, EU	Polyurethane	Vacuum pad
FVMQ	Fluoro vinyl methyl silicone / Fluoro silicone	Soft vacuum pad (fluoro-silicone)
VMQ	silicone / Vinyl methyl silicone	Vacuum pad (silicone)

Tube

Material Code	Material Name	Typical application on PISCO products
PA12	Poly amide 12	NA, NB, NL, SNT, FB inner tube
TPU (ester)	Thermo poly urethane (ester)	UBT, UE
TPU (ether)	Thermo poly urethane (ether)	UB, UC, UBS, UD, UQ, UCQ, UL, ULF (made in Japan)
PFA	Perfluoro alkoxyl alkane polymer	SFT
FEP	Tetrafluoroethylene-hexafluoropropylene copolymer	SET
PVC	Poly vinyl chloride	Outer cover of FB
PAO	Polyolefin	CTA, CTB

Metal

Material Code	Material Name	Typical application on PISCO products
C3600	Free cutting brass	Metallic body of fitting
A2011	Free cutting aluminum	Lock nut of speed controller, throttle (needle) valve, regulator and etc.
SUS304	Stainless Steel SUS304 (Austenite)	Metallic body of SUS304 and PP fitting
SUS316	Stainless Steel SUS316 (Austenite)	Metallic body of SUS316 fitting and SUS316 throttle (needle) valve
Special stainless steel	Special stainless steel	Metallic body of SUS303 like corrosivity fitting and speed controller

	Chemical	Resin						Rubber / Pad						Tube				Metal / Sealock													
		PBT	POM	PPS	PCTG	PP	ABS	PA6	PEEK	NBR	HNBR	EPDM	FKM	CR	AU/EU	FVMQ	VMQ	PA12	TPU (ester)	TPU (ether)	PFA	FEP	Soft PVC	PAO	C3600	A2011	SUS304	SUS316	Spcl. SUS	Std. Sealock	Super Sealock
N	Naptha	S	S	S	-	F	G	S	-	G	G	N	S	N	G	G	N	G	N	N	S	S	F	F	F	S	S	S	-	F	G
	Natural Gas	S	S	S	-	S	S	S	-	S	S	N	S	G	G	F	G	G	S	S	-	-	S	S	S	S	S	S	-	F	G
	Nickel Acetate	S	S	G	-	S	S	S	-	G	G	S	N	F	N	N	N	-	-	-	S	-	G	S	-	G	G	G	-	N	N
	Nickel Chloride	S	S	S	-	S	S	S	-	S	S	S	S	G	F	S	S	G	-	-	S	-	S	S	N	F	F	G	-	N	G
	Nickel Sulfate	S	S	S	-	S	S	S	-	S	S	S	S	G	F	S	S	G	-	-	S	-	S	-	N	N	G	G	-	G	G
	Nitric Acid (10%, 20°C)	F	-	S	G	S	-	-	S	N	N	G	S	-	-	G	G	N	-	N	S	S	-	S	N	F	G	S	G	N	G
	Nitric Acid (10%, 70°C)	N	-	F	F	G	-	-	-	N	N	G	S	-	-	G	G	N	-	N	S	S	-	G	N	F	G	S	G	N	G
	Nitric Acid (30%, 20°C)	N	-	G	-	G	-	-	-	N	N	G	S	-	-	G	G	N	-	N	S	S	-	G	N	F	G	S	G	N	G
	Nitric Acid (30%, 70°C)	N	-	F	-	F	-	-	-	N	N	G	F	F	N	F	F	N	-	N	S	S	-	F	N	F	G	S	G	N	G
	Nitric Acid (61%, 20°C)	N	-	F	N	F	-	-	N	N	N	F	F	-	-	F	N	N	-	N	S	S	-	F	N	F	G	S	G	N	G
	Nitric Acid (Red Fuming)	N	-	N	-	-	-	-	-	N	N	G	G	-	N	N	N	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Nitric Acid (White Fuming)	N	-	N	-	-	-	-	-	N	N	N	N	-	N	N	N	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Nitrobenzene	S	-	S	-	N	N	N	-	N	N	S	G	N	N	N	N	F	-	-	S	S	N	N	G	G	G	G	-	N	F
	Nitroethane	S	-	S	-	N	N	-	-	N	N	G	N	G	N	N	N	-	-	-	-	-	N	N	-	S	S	S	-	N	N
	Nitrogen	S	S	S	-	S	S	S	-	S	S	S	S	S	S	S	S	G	S	G	S	-	S	S	G	S	S	S	-	G	G
	Nitromethane	S	-	S	-	N	N	-	-	N	N	G	N	F	N	N	N	S	-	-	G	G	N	N	-	S	S	S	-	N	N
	Nitropropane	S	-	S	-	N	N	-	-	N	N	G	N	N	N	N	N	-	-	-	-	-	N	N	-	S	S	S	-	N	N
	Nitrous Oxide	S	S	-	-	-	-	-	-	S	S	S	S	-	-	S	-	-	-	-	S	-	-	-	N	-	G	G	-	G	G
O	Octachloro Toluene	-	-	-	-	-	-	-	-	N	N	S	S	N	N	G	N	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Octadecane	-	-	S	-	-	-	-	-	S	S	N	S	F	S	S	N	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Octane or n-Octane	-	-	S	-	-	-	-	-	G	G	N	S	N	N	G	N	G	-	-	-	-	-	-	-	-	-	-	-	-	-
	Octyl Alcohol	G	-	S	-	S	G	F	-	G	G	F	S	G	N	G	G	-	-	-	S	-	N	G	F	S	S	S	-	G	G
	Oleic Acid	S	-	S	G	G	S	-	-	F	N	G	N	G	-	N	G	S	F	-	-	F	F	F	G	G	G	-	G	G	
	Oleum (Fuming Sulfuric Acid)	F	-	G	-	F	N	N	-	N	N	S	N	N	G	N	N	S	S	S	S	-	N	N	N	G	G	G	-	N	G
	Olive Oil	S	S	S	G	G	S	S	-	S	S	G	S	F	S	S	F	-	-	-	-	-	F	G	F	S	S	S	-	G	G
	Oxalic acid	S	-	S	-	S	S	S	-	G	G	S	S	G	-	S	G	G	-	-	S	-	G	S	F	F	F	-	N	G	
	Oxygen	S	S	S	-	S	S	S	-	G	G	S	S	G	S	S	S	S	F	S	-	S	S	S	S	S	S	S	-	G	G
	Ozone	F	G	G	-	F	F	N	-	N	G	S	S	F	S	G	S	F	S	S	S	S	G	F	G	S	S	S	-	G	G
P	Palmitic Acid	S	-	S	-	-	S	-	S	S	G	S	G	S	N	-	-	S	-	-	S	-	-	-	G	-	G	G	-	N	G
	Pentane or n-Pentane	S	S	S	-	-	-	-	-	S	N	S	S	F	N	F	N	-	-	-	-	-	-	G	-	-	G	-	N	N	
	Perchloric Acid	G	-	G	-	F	-	-	-	N	N	G	S	F	N	S	F	-	-	-	-	-	G	-	N	N	N	-	N	G	
	Perchloroethylene	S	S	S	-	F	-	N	-	G	G	N	S	N	N	G	N	F	N	N	S	S	-	N	F	-	-	F	-	N	G
	Petroleum Oil	-	-	S	-	-	-	-	-	G	G	N	S	N	S	G	N	G	-	-	-	-	-	F	-	-	-	-	-	-	-
	Petroleum Oil, Crude	-	-	S	-	-	-	-	-	G	G	N	S	N	S	G	N	G	-	-	-	-	-	-	-	-	-	-	-	-	-
	Phenol (Carbolic Acid)	G	G	S	N	-	N	-	-	N	N	S	N	N	G	N	N	N	N	S	S	N	G	G	G	G	G	-	G	G	
	Phenylhydrazine	S	-	-	-	-	-	-	-	N	N	G	S	G	-	-	-	-	-	-	-	-	-	-	-	-	-	-	N	G	
	Phorone	-	-	-	-	-	-	-	-	N	N	F	N	N	N	N	N	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Phosphoric Acid, 20%	-	-	S	-	-	-	-	F	F	F	S	S	-	-	F	F	-	-	-	-	S	-	-	-	-	-	-	-	-	-
	Phosphoric Acid, 45%	G	-	S	-	S	G	G	-	F	F	S	S	-	-	G	F	G	F	N	S	S	S	S	N	N	G	G	-	G	G
	Phosphoric Acid, Concentrated	F	-	S	-	S	F	N	-	F	F	G	S	N	N	N	N	-	F	N	S	S	G	S	N	N	N	G	-	G	G
	Picric Acid (2,4,6-Trinitrophenol)	S	-	S	-	G	-	F	-	G	G	S	G	-	G	N	F	-	-	G	-	-	G	N	-	F	F	-	N	G	
	Pine oil	S	-	S	-	G	-	F	-	S	S	N	S	N	-	S	N	G	-	-	-	-	-	-	F	S	G	S	-	F	G
	Pinene	S	-	-	-	-	-	-	-	G	G	N	S	N	G	G	N	-	-	-	-	-	-	F	-	-	-	-	N	N	
	Piperidine	S	-	-	-	-	-	-	-	N	N	N	F	N	F	F	N	-	-	-	-	-	-	-	-	-	-	-	N	N	
	Potassium Acetate	-	-	G	-	-	-	-	-	G	G	S	N	N	N	N	N	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Potassium Bichromite	S	-	S	-	S	-	-	-	G	G	S	G	S	N	S	G	F	G	F	-	-	S	N	-	-	F	-	N	G	
	Potassium Chloride	S	S	S	-	S	S	S	-	S	S	S	S	S	S	S	S	G	S	G	S	-	S	F	F	G	S	-	G	G	
	Potassium Cyanide	S	-	S	-	S	S	S	-	S	S	S	S	S	S	S	S	S	-	-	-	-	S	-	N	N	G	G	-	N	G
	Potassium Nitrate	S	-	G	-	-	-	-	-	S	S	S	S	S	S	S	S	S	G	G	S	-	-	F	S	F	F	-	N	G	
	Potassium Permanganate	S	-	G	-	S	S	N	-	F	F	S	F	S	N	S	G	N	F	S	S	S	G	G	G	G	G	G	-	N	-

*The information is a general experimental value of the material but not a guaranteed value. Upon using a chemical, always test the equipment with the specific chemicals under the specific conditions of your application.

	Chemical	Resin						Rubber / Pad						Tube				Metal / Sealock														
		PBT	POM	PPS	PCTG	PP	ABS	PA6	PEEK	NBR	HNBR	EPDM	FKM	CR	AU/EU	FVMQ	VMQ	PA12	TPU (ester)	TPU (ether)	PFA	FEP	Soft PVC	PAO	C3600	A2011	SUS304	SUS316	Spcl. SUS	Std. Sealock	Super Sealock	
S	Sulfuric Acid (20%)	G	—	S	—	S	—	S	—	N	N	G	S	F	—	F	N	G	S	S	S	S	—	S	N	F	F	G	—	N	G	
	Sulfuric Acid (10%, 20°C)	G	—	S	N	S	—	—	S	N	N	G	S	—	—	F	N	G	—	—	S	S	—	S	N	F	F	G	F	N	G	
	Sulfuric Acid (10%, 70°C)	N	—	S	—	S	—	—	—	N	N	—	S	—	—	—	N	N	—	—	S	S	—	G	N	F	N	F	N	N	G	
	Sulfuric Acid (30%, 20°C)	G	—	S	G	S	—	—	F	N	N	—	S	—	—	—	N	F	—	—	S	S	—	N	F	F	G	—	N	G		
	Sulfuric Acid (30%, 70°C)	N	—	S	G	S	—	—	F	N	N	—	S	—	—	—	N	N	—	—	G	G	—	G	N	N	N	F	N	N	G	
	Sulfuric Acid (Conc., 20°C)	F	—	G	N	F	N	N	N	N	N	F	S	N	N	N	N	N	S	S	S	S	N	F	N	N	N	N	—	N	G	
	Sulfuric Acid (Conc., 70°C)	—	—	G	N	—	—	—	N	N	N	F	S	N	N	N	N	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
T	Sulfurous Acid	G	—	—	S	—	S	S	G	G	G	S	G	F	—	N	—	N	N	S	—	—	S	N	F	F	G	F	N	F		
	Tannic Acid	S	—	—	S	—	S	—	S	S	S	S	G	—	S	G	—	—	—	—	S	—	S	F	—	F	F	—	N	G		
	Tar, bituminous	—	—	S	—	—	—	—	—	G	G	F	S	N	—	S	G	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
	Tartaric Acid	S	—	—	S	—	G	—	S	S	G	S	F	S	S	S	G	—	—	—	S	—	—	F	F	G	G	F	—	G	G	
	Terpineol	S	—	S	—	—	—	—	—	G	G	F	S	N	G	S	N	—	—	—	—	—	—	—	—	—	—	—	—	—	N	G
	Tetrachloroethane	G	S	S	—	F	N	N	—	N	N	N	S	N	F	G	—	N	N	G	—	N	—	—	N	S	S	—	N	G		
	Tetrachloroethane	G	S	S	—	F	N	N	—	N	N	N	S	N	F	G	—	N	N	G	—	N	—	—	N	S	S	—	N	G		
	Tetraethyl Lead	S	S	S	—	G	—	G	—	G	G	N	S	N	—	G	—	—	—	—	G	—	G	G	—	—	G	—	F	G		
	Tetrahydrofuran	S	S	S	—	F	N	N	—	N	N	F	N	N	F	N	N	S	N	G	S	N	N	—	F	—	S	—	N	N		
	Tetralin	S	—	S	—	F	—	—	—	N	N	N	S	N	—	S	N	G	F	—	—	—	—	N	N	—	S	S	—	N	G	
	Thionyl Chloride	S	S	S	—	N	—	N	—	F	F	F	S	N	F	G	F	N	—	—	G	—	N	N	—	—	—	—	N	G		
	Toluene	S	S	S	N	F	N	G	—	N	N	N	S	N	N	G	N	G	N	N	S	S	N	F	S	S	S	S	—	N	G	
	Toluene Diisocyanate (TDI)	—	—	S	—	—	—	—	—	N	N	G	N	N	—	N	N	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
	Town Gas	—	—	S	—	—	—	—	—	S	S	—	S	—	—	—	F	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
	Triacetin	S	—	S	—	—	—	—	—	G	G	S	N	F	N	N	—	—	—	—	—	—	—	—	G	—	—	—	—	N		
	Triaryl phosphite	—	—	S	—	—	—	—	—	N	N	S	S	N	N	G	F	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
	Tributyl Mercaptan	—	—	S	—	—	—	—	—	N	N	N	S	N	—	F	N	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
	Tributyl phosphate	S	—	S	—	—	—	S	—	N	N	G	N	N	N	N	G	—	—	—	—	—	—	G	—	—	G	—	N	N		
	Trichloroacetic Acid	G	—	S	—	—	—	—	—	G	G	G	F	G	N	N	—	N	N	S	S	—	—	N	N	F	F	—	N	N		
	Trichloroethylene (Ethylene Trichloride)	G	S	S	N	F	N	N	—	F	F	N	S	N	N	G	N	F	N	N	S	S	N	F	S	G	G	G	—	N	F	
	Tricresyl phosphate	—	—	—	—	—	—	—	—	N	N	S	G	N	—	G	F	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
	Triethanol Amine	S	—	S	—	G	G	S	—	F	F	G	N	G	N	S	G	N	N	G	G	F	F	N	S	S	S	—	G	G		
	Trinitrotoluene (TNT)	—	—	S	—	—	—	—	—	N	N	N	G	F	—	G	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
	Triocetyl phosphate	—	—	S	—	—	—	—	—	N	N	S	G	N	N	G	F	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
	Tris(2-butoxyethyl) phosphate	S	—	S	—	—	—	—	—	N	N	S	S	G	N	G	—	—	—	—	—	—	—	—	—	—	—	—	—	N	G	
	Tung Oil (China Wood Oil)	S	S	S	—	S	—	S	—	S	S	N	S	N	F	G	N	—	—	—	—	—	—	S	S	S	S	S	—	G		
	Turpentine oil.	S	—	S	G	G	—	F	—	S	S	N	S	N	—	S	N	G	—	—	—	—	—	—	F	S	G	S	—	F	G	
U	Uric Acid	S	—	S	—	—	—	—	—	F	F	S	S	S	S	N	S	S	G	G	F	F	—	—	F	—	—	—	—	N	N	
V	Varnish	—	—	S	—	—	—	—	—	G	G	N	S	N	F	G	N	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
	Vegetable oil	—	—	S	—	—	—	—	—	S	S	F	S	F	—	S	S	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
W	Water	S	S	S	G	S	—	S	S	S	S	S	S	S	N	S	S	S	S	S	S	S	—	S	G	S	G	G	G	G	G	
X	Xylene (Xylol) (Dimethyl Benzene)	S	S	S	—	N	N	G	—	N	N	N	S	N	N	S	N	G	N	N	S	S	N	G	—	S	S	S	—	F	G	
Z	Zeolites	S	S	S	—	—	—	—	—	S	S	S	S	S	—	S	—	—	S	S	—	—	—	—	—	—	—	—	—	G	G	
	Zinc Acetate (Zinc Ethanoate)	S	S	G	—	S	S	S	—	G	G	S	N	N	N	N	—	—	—	—	—	—	S	S	N	—	S	—	N	F		
	Zinc Chloride	S	S	—	—	S	S	S	—	S	S	S	S	S	—	S	—	G	—	—	S	S	S	S	N	F	N	G	—	N	G	
	Zinc Sulfide	S	—	S	—	S	S	S	—	F	F	S	F	S	N	S	G	G	—	—	S	—	S	S	F	—	S	S	—	N	N	

NIHON PISCO CO.,Ltd.

OVERSEAS MARKETING DEPARTMENT

3884-1 MINAMIMINOWA, KAMIJINA, NAGANO-PREF., 399-4588 JAPAN

TEL : +81-(0)265-76-7751 FAX : +81(0)265-76-3305

URL : www.pisco.co.jp/english/pisco.htm E-mail : intl@pisco.co.jp

