

How to read the selection tables

- ◎ Practically no harm, and can be used (Excellent)
- Some harm may be inevitable but can be used under restrictions (Good)
- △ Should be avoided if at all possible (Not recommended)
- ✕ Should not be used (Unsuitable)

Note: Contact us when the space is blank.

Note:

When selecting the seal material, please consider the following suggestions carefully:

1. If there is no comment in the column of the fluid name, the condition of the fluid is under saturation at room temperature.
2. Please check with us for applications at a high fluid temperature or with different fluid concentrations.
3. For applications related to foods, please order separately specifying the detailed applications.

	Fluids	Seal Material						
		Nitrile rubber	Hydrogenated nitrile rubber	Ethylene-propylene rubber	Fluoro rubber	Perfluoro-elastomer	Silicone rubber	Chloroprene rubber
D	Diethylene glycol	◎	◎	◎	◎	◎	○	◎
E	Ethanol (Ethyl alcohol)	△	△	◎	△	◎	○	◎
	Ethyl acetate	×		○	×		○	×
	Ethyl benzene	×	×	×	◎	◎	×	×
	Ethyl cellulose	○	○	○	×	◎	○	○
	Ethyl chloride	◎	◎	△	◎	◎	×	×
	Ethylene glycol	◎	◎	◎	◎	◎	◎	◎
	Ethylene trichloride	×	×	△	◎	◎	×	×
F	Ferric sulfate	◎	◎	◎	◎	◎		◎
	Fish oil	○	○	×	◎	◎	◎	×
	Fluorine (Gas)	×		×	×	○	×	×
	Formaldehyde	△	△	○	×	◎	○	△
	Freon 11	○	×	×	○	○	×	×
	Freon 12	◎	○	△	△	○	×	◎
	Freon 22	×	×	△	×	◎	×	◎
	Fuel oil	◎		×	◎	◎	×	○
	Furfural	×	×	○	×	◎	×	×
G	Gasoline	◎	◎	×	◎	◎	×	×
	Gelatin	◎	◎	◎	◎	◎	◎	◎
	Glucose	◎	◎	◎	◎	◎	◎	◎
	Glycerine (65°C)	◎	◎	◎	◎	◎	◎	◎
	Grease (Petroleum-based)	◎	◎	×	◎	◎	×	×
H	Helium	◎	◎	◎	◎	◎	◎	◎
	Heptane (n-heptane)	◎	◎	×	◎	◎	×	○
	Hexane (n-hexane)	◎	◎	×	◎	◎	×	○
	Hexylene glycol	△	△	◎	△	◎	○	◎
	Hydraulic oil (Petroleum-based)	◎	◎	×	◎	◎	○	×
	Hydraulic oil (Phosphate ester series)	×	×	○	◎	◎	△	×
	Hydraulic oil (Synthetically-prepared)	○	○	×	◎	◎		×
	Hydraulic oil (Water-glycol series)	◎	◎	◎	○	◎	○	◎
	Hydraulic oil (Water-in-oil emulsion series)	◎	◎	×	◎	◎	△	×
	Hydrobromic acid	×	×	◎	◎	◎	×	×
	Hydrogen	◎	◎	◎	◎	◎	△	◎
	Hydrogen peroxide (30%)	×			◎		◎	×
I	Iron chloride	◎		◎	◎		○	◎
	Iron nitrate (65°C)	◎		◎	◎		○	◎
	Iron sulfite (100%)	◎		×	×		×	×
	Isoamyl alcohol	×		×	×		×	×
	Isooctane	◎	◎	×	◎	◎	×	○
	Isopropanol	○	○	◎	◎	◎	◎	○
	Isopropyl acetate	×	×	○	×	◎	×	×
	Isopropyl alcohol	○	○	◎	◎	◎	◎	○
	Isopropyl ether	○	○	×	×	◎	×	×
K	Kerosene	◎	◎	×	◎	◎	×	○
L	Lard and lard oil	◎	◎	○	◎	◎	○	○
	Latex	×		×	×		×	×
	Liquefied petroleum gas (LPG)	◎	◎	×	◎	◎	△	×
	Liquors (beet)	◎	◎	◎	◎	◎	◎	◎
	Lubricating oil (SAE 10, 20, 30, 40, 50)	◎	◎	×	◎	◎	×	×
M	Magnesium chloride	◎	◎	◎	◎	◎	◎	◎
	Magnesium hydroxide	○	○	◎	◎	◎	×	○
	Magnesium nitrate	◎		×	×		×	×

	Fluids	Seal Material						
		Nitrile rubber	Hydrogenated nitrile rubber	Ethylene-propylene rubber	Fluoro rubber	Perfluoro-elastomer	Silicone rubber	Chloroprene rubber
M	Magnesium sulfate	◎		◎	◎	◎	◎	◎
	Maleic anhydride	×	×	○	×	◎	×	×
	Mercury	◎	◎	◎	◎	◎	×	◎
	Methanol	×	×	◎	×	◎	◎	◎
	Methyl bromide	○	○	×	◎	◎	×	×
	Methyl butyl ketone	×	×	◎	×	◎	×	×
	Methyl chloride	×	×	△	◎	◎	×	×
	Methyl ethyl ketone (MEK)	×	×	◎	×	◎	×	×
	Methyl isobutyl ketone (MIBK)	×	×	△	×	◎	×	×
	Methyl propyl ketone	×		○	×		×	×
	Methyl salicylate	×	×	○	×	◎	×	△
	Methylene bromide	×		×	◎	◎	×	×
	Methylene chloride	×		×	○	◎	×	×
	Milk	◎	◎	◎	◎	◎	◎	◎
	Mineral oil	◎	◎	×	◎	◎	△	△
	Monobromobenzene	×		×	◎	◎	×	×
	Monochlorobenzene	×	×	×	◎	◎	×	×
	Monoethanolamine (MEA)	×	×	○	×	◎	○	×
N	n-amyl alcohol	×		×	×		×	×
	Naphtha	○	○	×	◎	◎	×	×
	Naphthalene	×	×	×	◎	◎	×	×
	Naphthenic oil	◎		×	◎		×	×
	n-butyl alcohol	×		×	×		×	×
	Nickel acetate	○	○	◎	×	◎	×	○
	Nickel acetate (65°C)	×		◎	×		×	×
	Nickel ammonium sulfate	△		◎	△	◎	○	◎
	Nickel chloride	◎	◎	◎	◎	◎	◎	◎
	Nickel nitrate	△	△	◎	△	◎	○	◎
	Nickel sulfate	◎	◎	◎	◎	◎	◎	○
	Nitrobenzene	×	×	△	○	◎	×	×
	Nitrogen (gas)	◎	◎	◎	◎	◎	◎	◎
O	Octyl alcohol	○	○	△	◎	◎	○	○
	Oleic acid	△	△	×	○	◎	×	×
	Olive oil	◎	◎	○	◎	◎	△	×
	Ortho-dichlorobenzene	×	×	×	◎	◎	×	×
	Oxygen (gas)	○	○	◎	◎	◎	◎	○
	Ozone	×	△	◎	◎	◎	◎	×
P	Palm oil	×		×	×		×	×
	Paradichlorobenzene	×	×	×	◎	◎	×	×
	Paraffin oil	◎	◎	×	◎	◎	×	×
	Peanut oil	◎		△	◎		◎	○
	Pentane (n-pentane)	◎	◎	×	◎	◎	×	◎
	Phenol	×	×	×	◎	◎	×	×
	Phosphorous oxychloride (dry)	○		◎			○	○
	Phosphorous oxychloride (wet)	○		◎	◎		○	○
	Phosphorus	×		×	×	◎	×	×
	Pine oil	○	○	×	◎	◎	×	×
	Potassium acetate (65°C)	○	○	◎	×	◎	×	○
	Potassium aluminium sulfate	△	△	◎	△	◎	○	◎
	Potassium bicarbonate	△	△	◎	△	◎	○	◎
	Potassium bichromate	◎		◎	◎	◎	◎	◎
	Potassium carbonate	△	△	◎	△	◎	○	◎