

□ Chemical Resistance Data (Connector)

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	CONNECTOR name	Names of parts which could come in contact with fluids				
		Nipple Inner fitting	—	—	—	Rubber cap
	TOYOCONNECTOR TCB	—	—	Nipple	—	Rubber cap
	TOYOCONNECTOR TCS	—	—	—	Nipple Inner fitting	Rubber cap
	TOYOCONNECTOR TCP	—	—	—	—	—
	TOYOCONNECTOR TCSB	—	—	Nipple	—	—
	TOYOCONNECTOR TCSBS	—	Nipple	—	—	—
	TOYOCONNECTOR TCFS	—	Nipple	—	—	—
	Food grade hose assemblies	—	Nipple	—	—	—
	Hose assemblies for general industry pipe thread.	—	—	Nipple	—	—
	TOYOFUSSO HOSE CONNECTORS FJN	—	Serrated nipple	—	—	—
	Chemical name (Weight and concentration (%), temperature (°C))	Brass	SCS16A SUS316L	SCS13 SUS304	Polyacetal	NBR
A	11 Freon	◎	◎	◎	◎	×
	113 Freon	◎	◎	◎	—	×
	114 Freon	◎	◎	◎	◎	—
	12 Freon	◎	◎	◎	◎	○
	21 Freon	◎	◎	◎	◎	×
	22 Freon	◎	◎	◎	◎	×
	A (ASTM standard fuel)	◎	◎	◎	◎	◎
	Acetaldehyde	◎	◎	◎	◎	×
	Acetamide	—	—	—	—	◎
	Acetic acid [10 % RT]	×	△	△	×	△
	Acetic acid [100 % RT]	×	△	△	×	×
	Acetic acid [50 % 70°C]	×	△	△	×	×
	Acetic acid [50 % RT]	×	△	△	×	△
	Acetic acid anhydride	×	△	△	—	×
	Acetone [RT]	◎	△	△	△	×
	Acetonitrile	—	—	—	—	—
	Acetophenone [RT]	—	—	—	—	×
	Acetylene	×	◎	◎	◎	◎
	Acidic cone suger Liquors	—	—	—	—	—
	Acrylonitrile	△	△	△	◎	×
	Aluminium fluoride	◎	×	×	—	◎
	Aluminium sulfate (Cake alum, filter alum)	×	◎	◎	◎	◎
	Aluminum acetate	—	△	△	◎	◎
	Aluminum bromide	—	—	—	—	◎
	Aluminum chloride	×	×	×	◎	◎

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	TOYOCONNECTOR TCP	—	—	—	Nipple Inner fitting	Rubber cap
	TOYOCONNECTOR TCSB	—	—	Nipple	—	—
	TOYOCONNECTOR TCSBS	—	Nipple	—	—	—
	TOYOCONNECTOR TCFS	—	Nipple	—	—	—
	Food grade hose assemblies	—	Nipple	—	—	—
	Hose assemblies for general industry pipe thread.	—	—	Nipple	—	—
	TOYOFUSSO HOSE CONNECTORS FJN	—	Serrated nipple	—	—	—
	Chemical name (Weight and concentration (%), temperature (°C))	Brass	SCS16A SUS316L	SCS13 SUS304	Polyacetal	NBR
A	Alums NH ₃ , Cr, K	—	—	—	◎	◎
	Aluminum nitrate	—	△	△	—	◎
	Ammonia (No water)	×	◎	◎	—	◎
	Ammonia gas (Cold)	×	◎	◎	—	◎
	Ammonia gas (Hot)	×	△	△	—	△
	Ammonia liquid	△	◎	◎	—	○
	Ammonia water (Ammonium roxide)	×	△	△	○	○
	Ammonium carbonate	—	△	△	◎	—
	Ammonium chloride	×	△	△	◎	◎
	Ammonium hydroxide (Ammonia water)	×	△	△	○	○
	Ammonium nitrate	×	△	△	○	◎
	Ammonium nitrite	—	—	—	—	△
	Ammonium phosphate	△	△	△	◎	○
	Ammonium sulfate	△	△	△	◎	◎
	Amyl acetate	△	◎	—	◎	×
	Amyl alcohol	△	△	△	—	○
	Amyl naphthalene	—	—	—	—	△
	Aniline	×	△	△	◎	×
	Anone (Cyclohexanone)	—	△	△	—	×
	Aqua regia	—	×	×	—	×
	Argon gas	—	—	—	—	—
Arsenic acid	△	△	△	—	—	
Asphalt	◎	◎	◎	◎	◎	

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	TOYOCONNECTOR TCP	—	—	—	—	—
	TOYOCONNECTOR TCSB	—	—	Nipple	—	—
	TOYOCONNECTOR TCSBS	—	Nipple	—	—	—
	TOYOCONNECTOR TCFS	—	Nipple	—	—	—
	Food grade hose assemblies	—	Nipple	—	—	—
	Hose assemblies for general industry pipe thread.	—	—	Nipple	—	—
	TOYOFUSSO HOSE CONNECTORS FJN	—	Serrated nipple	—	—	—
	Chemical name (Weight and concentration (%), temperature (°C))	Brass	SCS16A SUS316L	SCS13 SUS304	Polyacetal	NBR
B	B (ASTM standard fuel)	◎	◎	◎	◎	○
	Barium chloride	×	△	×	◎	◎
	Barium hydroxide	×	◎	△	◎	◎
	Barium sulfate	△	△	△	◎	◎
	Barium sulfide	—	△	—	—	◎
	Beer	—	—	—	◎	△
	Beet sugar liquors	×	◎	△	◎	◎
	Benzaldehyde	△	△	△	—	×
	Benzene (Benzol)	×	△	△	△	×
	Benzine	—	◎	◎	◎	◎
	Benzoic acid	×	×	×	△	×
	Benzoyl chloride	—	—	—	—	—

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	TOYOFUSSO HOSE CONNECTORS FJN	—	Serrated nipple	—	—	—
	Chemical name (Weight and concentration (%), temperature (°C))	Brass	SCS16A SUS316L	SCS13 SUS304	Polyacetal	NBR
B	Benzyl alcohol	△	△	△	△	×
	Bleacher	—	—	—	—	—
	Blue vitriol	◎	◎	△	◎	◎
	Borax (Sodium tetraborate)	×	◎	—	◎	◎
	Boric acid	△	△	△	◎	◎
	Brake oil DOT3	—	—	—	—	—
	Bromine	×	×	×	×	×
	Butane	◎	◎	◎	◎	○
	Butyl acetate	△	△	△	◎	×
	Butyl acrylate	—	◎	◎	—	×
	Butyl alcohol	—	—	—	—	○

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C	C (ASTM standard fuel)	◎	◎	◎	◎	△
	Calcium acetate	△	△	△	◎	◎
	Calcium bisulfite	×	△	△	—	◎
	Calcium chloride	◎	△	△	◎	◎
	Calcium hydroxide	△	△	△	◎	◎
	Calcium hypochlorite (High-test hypochlorite) [20% RT]	×	○	—	△	—
	Calcium nitrate	—	—	—	○	◎
	Calcium sulfide	—	△	△	—	◎
	Carbitol	△	△	—	—	◎
	Carbon dioxide (Carbonic acid gas)	◎	◎	◎	◎	◎
	Carbon disulfide	◎	◎	◎	×	△
	Carbon monoxide	◎	◎	◎	◎	—
	Carbon tetrachloride	△	△	△	◎	—
	Carbonic acid	◎	△	△	—	◎
	Carbonic acid gas (Carbon dioxide)	◎	◎	◎	◎	◎
	Castor oil	◎	△	△	◎	◎
	Caustic soda (Sodium hydroxide) [30% 70°C]	—	○	△	△	◎
	Caustic soda (Sodium hydroxide) [30% RT]	—	○	△	△	◎
	Cellosolve	△	△	△	—	◎
	Cellosolve acetate	—	—	—	—	×
	China wood (Tung) oil	◎	◎	◎	◎	◎
	Chlorinated solvent	—	—	—	—	×
Chlorine gas (Dry)	△	×	×	×	—	

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	TOYOCONNECTOR TCSB	—	—	Nipple	—	—
	TOYOCONNECTOR TCSBS	—	Nipple	—	—	—
	TOYOCONNECTOR TCFS	—	Nipple	—	—	—
	Food grade hose assemblies	—	Nipple	—	—	—
	Hose assemblies for general industry pipe thread.	—	—	Nipple	—	—
	TOYOFUSSO HOSE CONNECTORS FJN	—	Serrated nipple	—	—	—
	Chemical name (Weight and concentration (%), temperature (°C))	Brass	SCS16A SUS316L	SCS13 SUS304	Polyacetal	NBR
C	Chlorine gas (Wet)	×	×	×	×	—
	Chlorine liquid	—	—	—	×	×
	Chloro naphthalene	—	—	—	—	×
	Chloroacetic acid	—	—	—	—	—
	Chloroacetone	—	—	—	—	×
	Chlorobenzene (Monochlorobenzene)	—	—	—	×	×
	Chloroform	△	△	△	×	×
	Chlorosulfonic acid	△	×	×	×	×
	Chlorotoluene	—	—	—	×	×
	Chromic acid [2% 50°C]	×	△	×	—	—
	Chromic acid [2% 70°C]	×	△	×	×	×
	Chromic acid [5% 70°C]	×	△	×	×	×
	Chromic acid [10% 70°C]	×	△	×	×	×
	Chromic acid [25% 70°C]	×	△	×	×	×
	Citric acid	△	△	△	△	◎
	Coconut oil	△	△	—	◎	—
	Copper chloride	—	—	—	◎	◎
	Copper cyanide	—	◎	△	◎	—
	Corn oil	×	◎	—	◎	◎
	Cotton seed oil	△	△	△	○	◎
	Creosote oil	△	△	△	◎	◎
	Cresol	△	◎	△	△	×
Cyclohexane	△	△	△	×	○	
Cyclohexanol	△	△	△	—	△	
Cyclohexanone (Anone)	—	△	△	—	×	

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	TOYOCONNECTOR TCS	—	—	Nipple	—	Rubber cap
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	TOYOCONNECTOR TCSBS	—	Nipple	—	—	—
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	Food grade hose assemblies	—	Nipple	—	—	—
	Hose assemblies for general industry pipe thread.	—	—	Nipple	—	—
	TOYOFUSSO HOSE CONNECTORS FJN	—	Serrated nipple	—	—	—
	Chemical name (Weight and concentration (%), temperature (°C))	Brass	SCS16A SUS316L	SCS13 SUS304	Polyacetal	NBR
D	Developer (Sodium thiosulfate)	—	◎	◎	◎	—
	Diacetone alcohol	△	◎	◎	◎	—
	Dibutyl ether	—	△	△	—	×
	Dibutyl phthalate	—	△	△	—	×
	Dichlorobenzene	△	—	—	×	△
	Diethyl Ether (Ether, Ethyl ether)	△	△	△	—	○
	Diethyl sebacate	—	—	—	—	×
	Diethylamine	—	—	—	—	—
	Diethylene glycol	—	—	—	—	◎
	Dimethyl formamide	△	◎	—	×	×
	Dimethylacetamide	—	—	—	—	—
	Diethyl phthalate	—	—	—	○	◎
	Diethyl sebacate	—	—	—	○	×
	Dioxane	△	◎	◎	◎	×
	Diphenyl	—	△	△	—	×
	Diphenyl oxide	—	—	—	—	×

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	Chemical name (Weight and concentration (%), temperature (°C))	Brass	SCS16A SUS316L	SCS13 SUS304	Polyacetal	NBR
E	Epichlorohydrin	—	—	—	—	×
	Ethanolamine	—	△	△	◎	◎
	Ether (Diethyl ether, Ethyl ether)	△	△	△	—	○
	Ethyl acetate	△	△	△	◎	×
	Ethyl acetoacetate	—	—	—	—	×
	Ethyl acrylate	△	◎	◎	—	×
	Ethyl alcohol (Ethanol)	◎	◎	◎	◎	◎
	Ethyl benzene	△	◎	◎	◎	△
	Ethyl cellulose	—	△	△	◎	○
	Ethyl chloride	△	◎	◎	×	○
	Ethyl ether (Ether, Diethyl ether)	△	△	△	—	○
	Ethylene chlorohydrin	—	△	△	—	×
	Ethylene diamine	—	—	—	—	◎
	Ethylene dichloride	◎	△	△	×	×
	Ethylene glycol	△	×	×	○	◎
Ethylene oxide	△	△	△	—	×	

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F	Fatty acid	△	◎	△	◎	◎
	Ferric chloride	×	×	×	◎	◎
	Ferric nitrate	—	—	—	—	◎
	Ferric sulfate	×	△	△	—	—
	Flax seed oil	—	◎	◎	○	◎
	Fluorboric acid	—	◎	—	—	○
	Fluorine	×	△	×	—	—
	Fluorobenzene	—	—	—	—	×
	Formaldehyde [40 % 20°C]	△	△	△	◎	○
	Formic acid [25% RT]	×	△	△	×	×
	Formic acid [50% RT]	×	△	△	×	×
	Formic acid [90% RT]	×	△	△	×	×
	Fuel oil (Heavy oil)	—	—	—	—	◎
	Furfural	△	△	△	—	×
	G	Gasoline	◎	◎	◎	○
Gelatin		◎	◎	◎	◎	◎
Glacial acetic acid		—	—	—	—	—
Glauber's salt (Sodium sulfate)		◎	△	△	◎	◎
Glucose		◎	◎	◎	◎	◎
Glycerin		△	◎	◎	◎	◎
Glycolic acid		—	—	—	—	—
Grease		△	◎	◎	—	—

□ Chemical Resistance Data (Connector)

※ Use the following table as a guide to the applicable fluids when using a connector.

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Note) This data is subject to change for update of specifications and availability of newer information.

CONNECTOR name		Names of parts which could come in contact with fluids				
TOYOCONNECTOR	TCB	Nipple Inner fitting	—	—	—	Rubber cap
	TCS	—	—	Nipple	—	Rubber cap
	TCP	—	—	—	Nipple Inner fitting	Rubber cap
	TCSB	—	—	Nipple	—	—
	TCSBS	—	Nipple	—	—	—
	TCFS	—	Nipple	—	—	—
	Food grade hose assemblies	—	Nipple	—	—	—
	Hose assemblies for general industry pipe thread.	—	—	Nipple	—	—
	TOYOFUSSO HOSE CONNECTORS FJN	—	Serrated nipple	—	—	—
	Chemical name (Weight and concentration (%), temperature (°C))	Brass	SCS16A SUS316L	SCS13 SUS304	Polyacetal	NBR
H	Helium gas	—	—	—	—	—
	Heptane	◎	◎	◎	◎	—
	Hexaldehyde	—	—	—	—	×
	Hexan	△	◎	◎	◎	◎
	Hexyl alcohol	—	—	—	—	◎
	High-test hypochlorite (Calcium hypochlorite) [20% RT]	×	○	—	△	—
	Hydraulic oil	—	—	—	◎	—
	Hydrazine	—	◎	◎	—	—
	Hydrobromic acid [20% 70°C]	×	×	×	×	—
	Hydrobromic acid [20% RT]	×	×	×	—	—
	Hydrobromic acid [37 % RT]	×	×	×	—	◎
	Hydrochloric acid [10% RT]	×	×	×	×	◎
	Hydrochloric acid [20% 80°C]	×	×	×	×	×
	Hydrochloric acid [20% RT]	×	×	×	×	○
	Hydrochloric acid [38% RT]	×	×	×	×	◎
	Hydrocyanic acid	×	◎	◎	—	○
	Hydrofluoric acid	×	×	—	×	—
Hydrofluoride [10 % RT]	△	×	×	—	×	
Hydrofluoride [40 % RT]	△	×	×	—	×	

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	CONNECTOR name	Names of parts which could come in contact with fluids				
		Nipple Inner fitting	—	—	—	Rubber cap
	TOYOCONNECTOR TCB	—	—	Nipple	—	Rubber cap
	TOYOCONNECTOR TCS	—	—	—	Nipple	—
	TOYOCONNECTOR TCP	—	—	—	Nipple Inner fitting	Rubber cap
	TOYOCONNECTOR TCSB	—	—	Nipple	—	—
	TOYOCONNECTOR TCSBS	—	Nipple	—	—	—
	TOYOCONNECTOR TCFS	—	Nipple	—	—	—
	Food grade hose assemblies	—	Nipple	—	—	—
	Hose assemblies for general industry pipe thread.	—	—	Nipple	—	—
	TOYOFUSSO HOSE CONNECTORS FJN	—	Serrated nipple	—	—	—
	Chemical name (Weight and concentration (%), temperature (°C))	Brass	SCS16A SUS316L	SCS13 SUS304	Polyacetal	NBR
H	Hydrogen	△	◎	◎	◎	◎
	Hydrogen fluoride	—	—	—	—	—
	Hydrogen peroxide [30% RT]	×	△	△	—	×
	Hydrogen peroxide [5% 50°C]	×	△	△	—	×
	Hydrogen peroxide [5% RT]	×	△	△	◎	×
	Hydrogen sulfide	△	△	△	◎	◎
	Hydroquinone	—	—	—	◎	—
	Hypochlorous acid	—	△	—	—	—

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	CONNECTOR name	Names of parts which could come in contact with fluids				
		Nipple Inner fitting	—	—	—	Rubber cap
	TOYOCONNECTOR TCB	—	—	Nipple	—	Rubber cap
	TOYOCONNECTOR TCS	—	—	—	Nipple	Rubber cap
	TOYOCONNECTOR TCP	—	—	—	Nipple Inner fitting	Rubber cap
	TOYOCONNECTOR TCSB	—	—	Nipple	—	—
	TOYOCONNECTOR TCSBS	—	Nipple	—	—	—
	TOYOCONNECTOR TCFS	—	Nipple	—	—	—
	Food grade hose assemblies	—	Nipple	—	—	—
	Hose assemblies for general industry pipe thread.	—	—	Nipple	—	—
	TOYOFUSSO HOSE CONNECTORS FJN	—	Serrated nipple	—	—	—
	Chemical name (Weight and concentration (%), temperature (°C))	Brass	SCS16A SUS316L	SCS13 SUS304	Polyacetal	NBR
I	Isobutyl alcohol	—	◎	◎	△	○
	Isooctane	◎	△	△	◎	◎
	Isopropyl alcohol	△	△	△	△	○
K	Kerosene (Amp oil)	◎	◎	◎	◎	◎
	Kerosene (Lamp oil)	◎	◎	◎	◎	◎
	Kerosene (Light oil)	—	—	—	—	—
L	Lacquer	—	—	—	△	×
	Lactic acid	×	△	△	△	◎
	Lard	◎	△	—	◎	◎
	Lead acetate	—	△	△	◎	—
	Lead nitrate	—	—	—	—	—
	Lead sulfamate	—	—	—	—	—
	Linolenic acid	—	—	—	—	○
	Liquified petroleum gas	◎	◎	◎	○	◎
	Lubricating oil	◎	◎	◎	○	◎

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CONNECTOR name		Names of parts which could come in contact with fluids				
	TOYOCONNECTOR TCB	Nipple Inner fitting	—	—	—	Rubber cap
	TOYOCONNECTOR TCS	—	—	Nipple	—	Rubber cap
	TOYOCONNECTOR TCP	—	—	—	Nipple Inner fitting	Rubber cap
	TOYOCONNECTOR TCSB	—	—	Nipple	—	—
	TOYOCONNECTOR TCSBS	—	Nipple	—	—	—
	TOYOCONNECTOR TCFS	—	Nipple	—	—	—
	Food grade hose assemblies	—	Nipple	—	—	—
	Hose assemblies for general industry pipe thread.	—	—	Nipple	—	—
	TOYOFUSSO HOSE CONNECTORS FJN	—	Serrated nipple	—	—	—
	Chemical name (Weight and concentration (%), temperature (°C))	Brass	SCS16A SUS316L	SCS13 SUS304	Polyacetal	NBR
M	Magnesium chloride	×	×	×	◎	◎
	Magnesium hydroxide	△	△	△	◎	◎
	Magnesium sulfate	△	◎	◎	◎	◎
	Maleic acid	—	△	△	—	○
	Malic acid	△	△	△	—	—
	Mercuric chloride	×	×	×	◎	◎
	Mercury	×	△	△	◎	◎
	Methane gas	◎	△	—	◎	—
	Methyl acetate	◎	◎	△	○	×
	Methyl alcohol (Methanol)	◎	△	△	△	○
	Methyl chloride	△	◎	◎	×	△
	Methyl ethyl ketone (MEK)	◎	△	△	×	×
	Methyl isobutyl ketone (MIBK)	△	△	△	△	×
	Methyl methacrylate	—	△	△	—	×
	Methylene dichloride	—	△	△	×	×
	Milk	—	—	—	◎	◎
	Mineral oil	◎	◎	◎	○	◎
	Monochloroacetic acid	—	—	—	—	×
	Monochlorobenzene(Chlorobenzene)	—	—	—	×	×
	Monoethanolamine	—	△	—	—	◎

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CONNECTOR name		Names of parts which could come in contact with fluids				
	TOYOCONNECTOR TCB	Nipple Inner fitting	—	—	—	Rubber cap
	TOYOCONNECTOR TCS	—	—	Nipple	—	Rubber cap
	TOYOCONNECTOR TCP	—	—	—	Nipple Inner fitting	Rubber cap
	TOYOCONNECTOR TCSB	—	—	Nipple	—	—
	TOYOCONNECTOR TCSBS	—	Nipple	—	—	—
	TOYOCONNECTOR TCFS	—	Nipple	—	—	—
	Food grade hose assemblies	—	Nipple	—	—	—
	Hose assemblies for general industry pipe thread.	—	—	Nipple	—	—
	TOYOFUSSO HOSE CONNECTORS FJN	—	Serrated nipple	—	—	—
	Chemical name (Weight and concentration (%), temperature (°C))	Brass	SCS16A SUS316L	SCS13 SUS304	Polyacetal	NBR
N	Naphtha	△	△	△	◎	○
	Naphthalene	△	△	△	◎	×
	Naphthenic acid	—	△	△	—	◎
	Natural gas	◎	◎	◎	◎	◎
	n-Dibutylamine	—	—	—	—	—
	Nickel acetate	—	△	△	◎	—
	Nickel chloride	×	×	×	◎	◎
	Nickel sulfate	—	△	△	◎	◎
	Nikawa (Collagen based glue)	△	△	—	◎	◎
	Nitric acid [10% 70°C]	×	◎	△	×	×
	Nitric acid [30% 70°C]	×	◎	△	×	×
	Nitric acid [10% RT]	×	◎	△	×	×
	Nitric acid [30% RT]	×	◎	△	×	×
	Nitric acid [61.3% RT]	×	◎	△	×	×
	Nitric acid Fuming [RT]	×	◎	△	×	×
	Nitrobenzene	△	△	△	×	×
	Nitroethane	—	◎	◎	—	×
	Nitrogen	◎	◎	◎	◎	◎
	Nitromethane	—	◎	◎	—	×
	Nitropropane	—	◎	◎	—	×
	n-Methylaniline	—	—	—	—	—
	n-Methylpyrrolidone [40°C]	—	—	—	—	—
	No.1 (ASTM oil)	◎	◎	◎	◎	◎
	No.2 (ASTM oil)	◎	◎	◎	◎	○
No.3 (ASTM oil)	◎	◎	◎	◎	△	

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	CONNECTOR name	Names of parts which could come in contact with fluids				
		Nipple Inner fitting	—	—	—	Rubber cap
	TOYOCONNECTOR TCB	—	—	Nipple	—	Rubber cap
	TOYOCONNECTOR TCS	—	—	—	Nipple	—
	TOYOCONNECTOR TCP	—	—	—	Nipple Inner fitting	Rubber cap
	TOYOCONNECTOR TCSB	—	—	Nipple	—	—
	TOYOCONNECTOR TCSBS	—	Nipple	—	—	—
	TOYOCONNECTOR TCFS	—	Nipple	—	—	—
	Food grade hose assemblies	—	Nipple	—	—	—
	Hose assemblies for general industry pipe thread.	—	—	Nipple	—	—
	TOYOFUSSO HOSE CONNECTORS FJN	—	Serrated nipple	—	—	—
	Chemical name (Weight and concentration (%), temperature (°C))	Brass	SCS16A SUS316L	SCS13 SUS304	Polyacetal	NBR
O	Octane	—	—	—	—	—
	Octene	—	—	—	—	—
	Octylalcohol	△	△	△	△	◎
	Oleic acid	△	△	△	△	◎
	Olive oil	△	◎	◎	◎	◎
	Oxalic acid	×	×	×	◎	○
	Oxygen	◎	◎	◎	◎	○
	Ozone	△	◎	△	△	×

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	CONNECTOR name	Names of parts which could come in contact with fluids				
		Nipple Inner fitting	—	—	—	Rubber cap
	TOYOCONNECTOR TCB	—	—	Nipple	—	Rubber cap
	TOYOCONNECTOR TCS	—	—	—	Nipple Inner fitting	Rubber cap
	TOYOCONNECTOR TCP	—	—	—	—	—
	TOYOCONNECTOR TCSB	—	—	Nipple	—	—
	TOYOCONNECTOR TCSBS	—	Nipple	—	—	—
	TOYOCONNECTOR TCFS	—	Nipple	—	—	—
	Food grade hose assemblies	—	Nipple	—	—	—
	Hose assemblies for general industry pipe thread.	—	—	Nipple	—	—
	TOYOFUSSO HOSE CONNECTORS FJN	—	Serrated nipple	—	—	—
	Chemical name (Weight and concentration (%), temperature (°C))	Brass	SCS16A SUS316L	SCS13 SUS304	Polyacetal	NBR
P	Palmitic acid	△	△	△	◎	◎
	Perchloric acid	×	×	×	—	×
	Petroleum	—	—	—	○	◎
	Phenol	△	△	△	×	×
	Phenylhydrazine	—	—	—	—	×
	Phosphoric acid [50 % 70°C]	×	◎	△	△	○
	Phosphoric acid [50 % RT]	×	◎	△	○	◎
	Phosphoric acid [75 % RT]	×	◎	△	—	○
	Phosphoric acid [85 % 70°C]	—	—	—	—	—
	Phosphorus oxychloride	—	—	—	—	—
	Phosphorus trichloride	—	—	—	—	—
	Phthalic acid [70°C]	—	—	—	—	—
	Picric acid	×	△	△	—	○
	Pine oil	△	◎	△	—	○
	Pinene	—	—	—	—	○

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	CONNECTOR name	Names of parts which could come in contact with fluids				
		Nipple Inner fitting	—	—	—	Rubber cap
	TOYOCONNECTOR TCB	—	—	Nipple	—	Rubber cap
	TOYOCONNECTOR TCS	—	—	—	Nipple Inner fitting	Rubber cap
	TOYOCONNECTOR TCP	—	—	—	—	—
	TOYOCONNECTOR TCSB	—	—	Nipple	—	—
	TOYOCONNECTOR TCSBS	—	Nipple	—	—	—
	TOYOCONNECTOR TCFS	—	Nipple	—	—	—
	Food grade hose assemblies	—	Nipple	—	—	—
	Hose assemblies for general industry pipe thread.	—	—	Nipple	—	—
	TOYOFUSSO HOSE CONNECTORS FJN	—	Serrated nipple	—	—	—
	Chemical name (Weight and concentration (%), temperature (°C))	Brass	SCS16A SUS316L	SCS13 SUS304	Polyacetal	NBR
P	Potassium chloride	△	◎	△	◎	◎
	Potassium cyanide	×	△	△	◎	◎
	Potassium dichromate [10% RT]	×	△	-	-	◎
	Potassium hydroxide	△	△	△	○	○
	Potassium hydroxide [20% 70°C]	-	-	-	-	-
	Potassium nitrate	△	△	△	-	◎
	Potassium permanganate [5% RT]	△	△	△	-	×
	Potassium sulfate	△	△	△	◎	◎
	Propane	◎	◎	◎	○	◎
	Propyl acetate	◎	◎	-	◎	×
	Propyl alcohol	△	◎	◎	◎	○
	Propylene	◎	×	×	◎	△
	Propylene oxide	-	-	-	-	-
	Pyridine	△	△	-	-	×

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CONNECTOR name		Names of parts which could come in contact with fluids				
	TOYOCONNECTOR TCB	Nipple Inner fitting	—	—	—	Rubber cap
	TOYOCONNECTOR TCS	—	—	Nipple	—	Rubber cap
	TOYOCONNECTOR TCP	—	—	—	Nipple Inner fitting	Rubber cap
	TOYOCONNECTOR TCSB	—	—	Nipple	—	—
	TOYOCONNECTOR TCSBS	—	Nipple	—	—	—
	TOYOCONNECTOR TCFS	—	Nipple	—	—	—
	Food grade hose assemblies	—	Nipple	—	—	—
	Hose assemblies for general industry pipe thread.	—	—	Nipple	—	—
	TOYOFUSSO HOSE CONNECTORS FJN	—	Serrated nipple	—	—	—
	Chemical name (Weight and concentration (%), temperature (°C))	Brass	SCS16A SUS316L	SCS13 SUS304	Polyacetal	NBR
S	Salad oil	—	—	—	—	—
	Salicylic acid	◎	△	△	—	—
	Salt	△	△	△	◎	◎
	Salt water	×	△	△	◎	◎
	Sea water	△	◎	◎	◎	—
	Silicon tetrachloride [55°C]	—	—	—	—	—
	Silicone grease	—	—	—	—	◎
	Silicone oil	—	—	—	◎	◎
	Silver nitrate	—	△	△	—	—
	Soap solution	◎	◎	◎	◎	◎
	Soda ash (Sodium carbonate)	◎	△	△	◎	◎
	Sodium bicarbonate	×	△	—	◎	◎
	Sodium bisulfite	—	—	—	—	◎
	Sodium carbonate (Soda ash)	◎	△	△	◎	◎
	Sodium cyanide	×	△	△	◎	◎
	sodium hydrogen sulfite	—	—	—	—	◎
	Sodium hydroxide (caustic soda) [30% 70°C]	—	○	△	△	◎
	Sodium hydroxide (caustic soda) [30% RT]	—	○	△	△	◎
	Sodium hypochlorite [30% RT]	—	—	—	—	—
	Sodium hypochlorite [5% 70°C]	×	○	×	×	×
Sodium hypochlorite [5% RT]	×	○	×	△	△	

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CONNECTOR name		Names of parts which could come in contact with fluids				
	TOYOCONNECTOR TCB	Nipple Inner fitting	—	—	—	Rubber cap
	TOYOCONNECTOR TCS	—	—	Nipple	—	Rubber cap
	TOYOCONNECTOR TCP	—	—	—	Nipple Inner fitting	Rubber cap
	TOYOCONNECTOR TCSB	—	—	Nipple	—	—
	TOYOCONNECTOR TCSBS	—	Nipple	—	—	—
	TOYOCONNECTOR TCFS	—	Nipple	—	—	—
	Food grade hose assemblies	—	Nipple	—	—	—
	Hose assemblies for general industry pipe thread.	—	—	Nipple	—	—
	TOYOFUSSO HOSE CONNECTORS FJN	—	Serrated nipple	—	—	—
	Chemical name (Weight and concentration (%), temperature (°C))	Brass	SCS16A SUS316L	SCS13 SUS304	Polyacetal	NBR
S	Sodium nitrate	△	◎	◎	◎	◎
	Sodium perborate	×	△	—	◎	◎
	Sodium peroxide	×	△	△	◎	◎
	Sodium phosphate	—	△	△	◎	○
	Sodium silicate	△	△	—	◎	—
	Sodium sulfate (Glauber' s salt)	◎	△	△	◎	◎
	Sodium tetraborate (Borax)	×	◎	—	◎	◎
	Sodium thiosulfate	△	△	△	◎	◎
	Soy bean oil	△	◎	△	◎	◎
	Steam	—	—	—	△	○
	Stearic acid	△	△	△	○	◎
	Styrene	△	△	◎	—	×
	Sulfur	×	△	△	◎	◎
	Sulfuric acid [10 % 70°C]	×	△	△	△	◎
	Sulfuric acid [10 % RT]	×	△	△	◎	◎
	Sulfuric acid [30 % 70°C]	×	×	×	△	◎
	Sulfuric acid [30 % RT]	×	×	×	△	◎
	Sulfuric acid [98 % 70°C]	×	×	×	—	—
	Sulfuric acid [98 % RT]	×	△	△	×	×
	Sulfuric acid Fuming [RT]	×	×	×	×	×
Sulfurous acid	×	△	△	—	○	
Sulfurous acid [10% RT]	—	—	—	—	—	
Sulfurous acid gas	—	△	△	—	△	
Sulfurous acid natrium	◎	◎	◎	△	◎	

□ Chemical Resistance Data (Connector)

※ Use the following table as a guide to the applicable fluids when using a connector.

◎=Excellent, can be used without problems.

○=Good, may be affected to some extent, but can be used under general conditions.

△=Fair, need to verify suitability.

×=Poor, cannot be used.

※ Liquid is assumed to be at saturated concentration in aqueous solution unless stated otherwise.

Note) This table is about the joints flow path (inner surface), and was prepared based on the data provided from the material maker and references. The data does not apply to practical use. The data may differ according to the conditions such as usage methods, temperature, pressure, concentration and period, etc., so check the detailed working conditions and contact us through our web site. Refer to the Chemical Resistance Data (hose) for the hose's chemical resistance data.

Note) This data is subject to change for update of specifications and availability of newer information.

CONNECTOR name		Names of parts which could come in contact with fluids				
	TOYOCONNECTOR TCB	Nipple Inner fitting	—	—	—	Rubber cap
	TOYOCONNECTOR TCS	—	—	Nipple	—	Rubber cap
	TOYOCONNECTOR TCP	—	—	—	Nipple Inner fitting	Rubber cap
	TOYOCONNECTOR TCSB	—	—	Nipple	—	—
	TOYOCONNECTOR TCSBS	—	Nipple	—	—	—
	TOYOCONNECTOR TCFS	—	Nipple	—	—	—
	Food grade hose assemblies	—	Nipple	—	—	—
	Hose assemblies for general industry pipe thread.	—	—	Nipple	—	—
	TOYOFUSSO HOSE CONNECTORS FJN	—	Serrated nipple	—	—	—
	Chemical name (Weight and concentration (%), temperature (°C))	Brass	SCS16A SUS316L	SCS13 SUS304	Polyacetal	NBR
T	Tannic acid	×	△	△	—	○
	Tar	△	◎	◎	—	◎
	Tartaric acid	×	△	△	—	◎
	Tetrachloroethylene	△	△	—	×	△
	Tetraethyl lead	△	△	—	◎	—
	Tetrahydrofuran	—	◎	—	×	×
	Tetralin	—	◎	◎	◎	△
	Thionyl chloride	—	—	—	—	—
	Tin(II)chloride	×	×	×	○	◎
	Toluene	◎	◎	◎	○	×
	Trichloroacetic acid	—	△	△	—	—
	Trichloroethylene	◎	◎	◎	×	×
	Tricresyl phosphate (TCP)	—	—	—	—	×
	Triethanolamine	—	◎	◎	—	◎
	Triethylamine	—	—	—	—	—
	Turbine oil	—	—	—	—	—
	Turpentine oil	△	◎	△	—	○
V	Vinegar	—	—	—	○	△
W	Water	◎	◎	◎	◎	○
	Whiskey,Wine	—	—	—	×	◎
X	Xylene	—	◎	◎	○	×
Z	Zinc acetate	—	◎	—	◎	—
	Zinc chloride	×	◎	△	◎	◎
	Zinc sulfide	△	△	△	◎	◎