AKJIA HYDRAULIC

AKJIA

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Seal and Body Material for Different Liquids

The Seal ring material

Excellent
Good
Conditional
Unsatisfactory

	Buna-N	Neoprene	EPDM	FKM	Steel	Brass	Stainless Steel	Aluminum
Acetaldehyde								
Acetic Acid, 10%								
Acetic Acid, Glacial								
Acetone								
Acetophenone								
Acetyl Acetone								
Acetyl Chloride								
Acetylene (1)								
Air, Hot (Up to +160 °F)								
Air, Hot (161°F – 200°F)								
Air, Hot (201°F – 300°F)								
Air Wet, below 160°F								
Aluminum Chloride, 10% aq								
Aluminum Fluoride, 10% aq								
Aluminum Nitrate, 10% aq								
Aluminum Sulfate, 10% aq								
Alums, 10% aq								
Ammonia, Cold								
Ammonia, Hot								
Ammonia, Anhydrous								
Ammonia, Aqueous								
Ammonium Carbonate, 10% aq								
Ammonium Chloride, 10% aq								
Ammonium Hydroxide, 10% aq								
Ammonium Nitrate, 10% aq								
Ammonium Phosphate, 10% aq				–				
Ammonium Sulfate/Sulfide, 10% aq								
Amyl Acetate								
Amyl Alcohol								
Aniline, Aniline Oil								

Excellent
Good
Conditional
Unsatisfactory

	Buna-N	Neoprene	EPDM	FKM	Steel	Brass	Stainless Steel	Aluminum
Aniline Dyes								
Asphalt, < 200°F								
IRM 901 Oil								
IRM 902 Oil								
IRM 903 Oil								
Automatic Trans. Fluid								
Barium Chloride, 10% aq								
Barium Hydroxide, 105 aq								
Barium Sulfide, 10% aq								
Benzene, Benzol								
Benzoic Acid								
Benzyl Alcohol								
BioDiesel (<B20)					–	–	–	–
BioDiesel (>B20)					–	–	–	–
Black Sulfate Liquor								
Blast Furnace Gas								
Borax, 10% aq								
Boric Acid, 10% aq								
Brine								
Bromine, Dry								
Butane								
Butyl Acetate								
Butyl Alcohol								
Butyl Cellosolve								
Butylene (Butene)								
Butyl Stearate								
Butyraldehyde								
Calcium Acetate, 10% aq								
Calcium Bisulfate, 10% aq								
Calcium Chloride, 10% aq								

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Excellent
Good
Conditional
Unsatisfactory

	Buna-N	Neoprene	EPDM	FKM	Steel	Brass	Stainless Steel	Aluminum
Calcium Hydroxide, 10% aq	●	●	●	●	○	○	○	●
Calcium Hypochlorite, 10% aq	●	●	●	●	●	○	◐	●
Calcium Nitrate, 10% aq	●	●	●	●	○	○	○	○
Carbitol	○	○	○	○	●	●	●	●
Carbolic Acid (Phenol)	●	●	○	●	●	●	●	–
Carbonic Acid	○	●	●	●	●	◐	●	○
Carbon Dioxide, Dry Gas	○	○	●	●	●	●	●	●
Carbon Disulfide	●	●	●	●	○	○	○	●
Carbon Monoxide	○	○	●	●	●	●	●	●
Carbon Tetrachloride	●	●	●	●	●	○	○	●
Castor Oil	●	●	○	●	●	●	●	●
Cellosolve Acetate	●	●	○	●	●	●	●	○
China Wood Oil (Tung Oil)	○	○	●	●	●	○	●	●
Chlorine Gas, Dry	●	●	●	○	◐	◐	◐	◐
Chloroacetic Acid	●	●	○	●	●	●	●	●
Chloroacetone	●	●	●	●	○	○	○	●
Chlorobenzene	●	●	●	○	○	○	○	○
Chloroform	●	●	●	●	○	○	○	○
O-Chlorophenol	●	●	●	●	○	○	○	●
Chlosulfonic Acid	●	●	●	●	○	●	○	○
Chrome Plating Solution	●	●	○	●	◐	●	●	●
Chromic Acid	●	●	◐	●	◐	●	●	●
Citric Acid	●	●	●	●	◐	◐	◐	◐
Coke Oven Gas	●	●	●	●	●	◐	●	●
Copper Chloride, 10% aq	●	●	●	●	●	●	●	●
Copper Cyanide, 10% aq	●	●	●	●	●	●	○	●
Copper Sulfate, 10% aq	●	●	●	●	●	◐	○	●
Cotton Seed Oil	●	○	◐	●	●	●	●	●
Creosote (Coal Tar)	○	◐	●	●	●	◐	●	●
Crude Oil	●	○	●	●	○	●	○	●
Cyclohexanol	●	○	●	●	●	●	●	◐
Cyclohexanone	●	●	○	●	●	●	●	◐
Detergent/Water Solution	●	●	●	●	○	●	●	●
Diacetone Alchohol (Acetol)	●	●	●	●	●	●	●	●
Dibenzyl Ether	●	●	○	●	○	○	○	○
Diesel Oil	●	◐	●	●	●	●	●	●
Diethylamine	○	○	○	●	●	●	●	–
Dioctyl Phthalate (DOP)	●	●	○	○	●	●	●	●
DOT #3 / #4 Brake fluid	◐	●	●	●	●	◐	●	●
Dowtherm A&E	●	●	●	●	○	●	●	●
Ethyl Alcohol (Ethanol)	●	●	●	●	●	●	●	○

Excellent
Good
Conditional
Unsatisfactory

	Buna-N	Neoprene	EPDM	FKM	Steel	Brass	Stainless Steel	Aluminum
Ethyl Acetate	●	●	○	●	●	●	●	●
Ethyl Benzene	●	●	●	●	●	○	○	○
Ethyl Cellulose	○	○	○	●	●	○	○	○
Ethyl Chloride	●	●	●	●	●	●	●	○
Ethylene Dichloride	●	●	●	○	○	◐	○	○
Ethylene Glycol	●	●	●	●	●	○	●	●
Ferric Chloride, 10% aq	●	○	●	●	●	●	●	●
Ferric Nitrate, 10% aq	●	●	●	●	●	●	○	●
Ferric Sulfate, 10% aq	○	○	○	●	●	●	●	●
Formaldehyde	◐	◐	○	○	●	●	●	○
Formic Acid	◐	○	●	●	●	◐	◐	◐
Fuel Oil	●	◐	●	●	●	●	●	●
Furfural	◐	◐	○	●	○	○	○	○
Gallic Acid, Solution	○	○	○	●	●	–	○	◐
Gasoline	●	●	●	●	●	●	●	●
Gasohol	○	●	●	●	●	●	●	○
Glycerine/Glycerol	●	●	●	●	●	○	●	●
Green Sulfate Liquor	○	○	●	●	●	●	●	●
Helium (1)	●	●	●	●	●	●	●	●
Heptane	●	○	●	●	●	●	●	●
Hexaldehyde	●	○	○	●	○	○	●	●
Hexane	●	○	●	●	●	●	●	●
Hydraulic Oils, petroleum based	○	◐	●	●	●	●	●	●
Ester Blend	●	●	●	●	●	●	●	●
Phos. Ester/Petroleum Blend	●	●	●	◐	●	●	●	●
Silicone Oils	●	●	●	●	●	●	●	●
Straight Petroleum Base	●	◐	●	●	●	●	●	●
Straight Phosphate Ester	●	●	○	◐	●	●	●	●
Water Glycol	●	●	●	●	●	●	●	○
Water Petroleum Emulsion	●	○	●	●	◐	●	●	○
Hydrobromic Acid	●	●	●	●	●	●	●	●
Hydrochloric Acid, Cold	●	●	○	●	●	●	●	●
Hydrocyanic Acid	◐	◐	●	●	●	●	○	●
Hydrofluoric Acid	●	●	◐	●	●	●	●	●
Hydrofluorosilic Acid	○	○	●	●	●	●	●	●
Hydrogen	●	●	●	●	●	●	●	●
Hydrogen Peroxide	○	○	○	●	●	●	○	●
Hydrogen Sulfide, Dry	●	○	●	●	●	○	○	○
Isocyanate	●	●	○	●	○	–	○	–
Iso Octane	●	○	●	●	●	●	●	●
Isopropyl Acetate	●	●	○	●	●	–	●	●

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Excellent
Good
Conditional
Unsatisfactory

	Buna-N	Neoprene	EPDM	FKM	Steel	Brass	Stainless Steel	Aluminum
Isopropyl Alcohol	Good	Good	Excellent	Excellent	Excellent	Excellent	Excellent	Good
Isopropyl Ether	Good	Unsatisfactory	Unsatisfactory	Unsatisfactory	Good	Good	Good	–
JP-4, JP-5	Excellent	Unsatisfactory	Unsatisfactory	Excellent	Excellent	Excellent	Excellent	Excellent
Kerosene	Excellent	Unsatisfactory	Unsatisfactory	Excellent	Excellent	Excellent	Excellent	Excellent
Lacquer/Lacquer Solvents	Unsatisfactory	Unsatisfactory	Unsatisfactory	Unsatisfactory	Unsatisfactory	Excellent	Excellent	Excellent
Lime Sulfur	Unsatisfactory	Excellent	Excellent	Excellent	Good	Unsatisfactory	Good	–
Linseed Oil	Excellent	Good	Unsatisfactory	Excellent	Excellent	Excellent	Excellent	Excellent
LPG	Excellent	Good	Unsatisfactory	Excellent	Excellent	Excellent	Excellent	Excellent
Magnesium Chloride, 10% aq	Excellent	Excellent	Excellent	Excellent	Excellent	Conditional	Conditional	Good
Magnesium Hydroxide, 10% aq	Good	Good	Excellent	Excellent	Excellent	Good	Excellent	Good
Magnesium Sulfate, 10% aq	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent
Maleic Acid	Unsatisfactory	Unsatisfactory	Unsatisfactory	Excellent	Excellent	Good	Good	Good
Maleic Anhydride	Unsatisfactory	Unsatisfactory	Unsatisfactory	Excellent	Good	Unsatisfactory	Excellent	Good
Malic Acid	Good	Good	Unsatisfactory	Good	Unsatisfactory	–	Excellent	Good
Mercuric Chloride	Excellent	Excellent	Excellent	Excellent	Unsatisfactory	Unsatisfactory	Unsatisfactory	Unsatisfactory
Mercury	Excellent	Excellent	Excellent	Excellent	Excellent	Unsatisfactory	Excellent	Unsatisfactory
Methanol	Good	Good	Excellent	Unsatisfactory	Good	Good	Excellent	Conditional
Methyl Bromide	Good	Unsatisfactory	Unsatisfactory	Excellent	Excellent	Excellent	Good	Unsatisfactory
Methyl Chloride	Unsatisfactory	Unsatisfactory	Unsatisfactory	Excellent	Excellent	Excellent	Excellent	Unsatisfactory
Methyl Butyl Ketone	Unsatisfactory	Unsatisfactory	Excellent	Unsatisfactory	Excellent	Excellent	Excellent	–
Methyl Ethyl Ketone	Unsatisfactory	Unsatisfactory	Excellent	Unsatisfactory	Good	Good	Good	Good
Methylene Chloride	Unsatisfactory	Unsatisfactory	Unsatisfactory	Good	Good	Good	Good	Good
Methyl Isobutyl Ketone	Unsatisfactory	Unsatisfactory	Unsatisfactory	Unsatisfactory	Good	Good	Good	Good
Methyl Isopropyl Ketone	Unsatisfactory	Unsatisfactory	Unsatisfactory	Unsatisfactory	Good	Good	Good	Good
Methyl Salicylate	Unsatisfactory	Unsatisfactory	Conditional	Unsatisfactory	Excellent	Good	Good	Excellent
MIL-L-2104	Excellent	Good	Unsatisfactory	Excellent	Excellent	Excellent	Excellent	–
MIL-H-5606	Excellent	Good	Unsatisfactory	Excellent	Excellent	Excellent	Excellent	Excellent
MIL-H-6083	Excellent	Excellent	Unsatisfactory	Excellent	Excellent	Excellent	Excellent	–
MIL-L-7808	Good	Unsatisfactory	Unsatisfactory	Excellent	Good	Good	Excellent	–
MIL-L-23699	Good	Unsatisfactory	Unsatisfactory	Excellent	Excellent	Excellent	Excellent	Excellent
MIL-H-46170	Excellent	Good	Unsatisfactory	Excellent	Excellent	Excellent	Excellent	–
MIL-H-83282	Excellent	Unsatisfactory	Unsatisfactory	Excellent	Excellent	Excellent	Excellent	–
Mineral Oils	Excellent	Conditional	Unsatisfactory	Excellent	Excellent	Excellent	Excellent	Excellent
Naphtha	Conditional	Unsatisfactory	Unsatisfactory	Excellent	–	–	–	–
Naphthalene	Unsatisfactory	Unsatisfactory	Unsatisfactory	Excellent	Excellent	Good	Excellent	Good
Naphthenic Acid	Conditional	Unsatisfactory	Unsatisfactory	Excellent	–	Good	Excellent	Good
Natural Gas	Excellent	Excellent	Unsatisfactory	Excellent	Good	Good	Good	Good
Nickel Acetate, 10% aq	Conditional	Conditional	Excellent	Good	Good	Conditional	Excellent	Good
Nickel Chloride, 10% aq	Excellent	Good	Excellent	Excellent	Unsatisfactory	Unsatisfactory	Good	Unsatisfactory
Nickel Sulfate, 10% aq	Excellent	Excellent	Excellent	Excellent	Unsatisfactory	Good	Good	Unsatisfactory
Nitric Acid, to 10%	Unsatisfactory	Unsatisfactory	Unsatisfactory	Excellent	Unsatisfactory	Unsatisfactory	Excellent	Unsatisfactory

Excellent
Good
Conditional
Unsatisfactory

	Buna-N	Neoprene	EPDM	FKM	Steel	Brass	Stainless Steel	Aluminum
Nitric Acid, over 10%	Unsatisfactory	Unsatisfactory	Unsatisfactory	Good	Unsatisfactory	Unsatisfactory	Excellent	Conditional
Nitrobenzene	Unsatisfactory	Unsatisfactory	Unsatisfactory	Good	Excellent	Good	Excellent	Excellent
Nitrogen	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent
Octyl Alcohol	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent
Oleic Acid	Unsatisfactory	Unsatisfactory	Conditional	Good	Conditional	Excellent	Good	Conditional
Oleum, fuming sulfuric acid	Unsatisfactory	Unsatisfactory	Unsatisfactory	Excellent	Excellent	Excellent	Excellent	Excellent
Ortho-Dichlorobenzene	Unsatisfactory	Unsatisfactory	Unsatisfactory	Excellent	Good	Good	Good	Good
Oxalic Acid, 10% aq	Good	Good	Excellent	Excellent	Unsatisfactory	Conditional	Conditional	Conditional
Oxygen	–	–	Excellent	Excellent	Good	Good	Good	Good
Palmitic Acid	Excellent	Good	Good	Excellent	Good	–	Excellent	Good
Para-Dichlorobenzene	Unsatisfactory	Unsatisfactory	Unsatisfactory	Excellent	Good	Good	Good	Good
Pentane	Excellent	Excellent	Unsatisfactory	Excellent	Good	Good	Good	Excellent
Perchloric Acid	Excellent	Good	Good	Excellent	Unsatisfactory	Unsatisfactory	Unsatisfactory	Unsatisfactory
Perchloroethylene	Unsatisfactory	Unsatisfactory	Unsatisfactory	Excellent	Conditional	Good	Good	Good
Petroleum Base Oils	Excellent	Good	Unsatisfactory	Excellent	Excellent	Excellent	Excellent	Excellent
Phenol (Carbolic Acid)	Unsatisfactory	Unsatisfactory	Good	Excellent	Unsatisfactory	Excellent	Excellent	Excellent
Phosphate Ester	Unsatisfactory	Unsatisfactory	Good	Conditional	Excellent	Excellent	Excellent	Excellent
Phosphoric Acid 20%	Unsatisfactory	Unsatisfactory	Good	Excellent	Unsatisfactory	Excellent	Unsatisfactory	Conditional
Phosphorous Trichloride	Unsatisfactory	Unsatisfactory	Excellent	Excellent	Conditional	Unsatisfactory	Conditional	Excellent
Potassium Acetate, 10% aq	Good	Good	Excellent	Unsatisfactory	Conditional	Good	Conditional	Unsatisfactory
Potassium Chloride, 10% aq	Excellent	Excellent	Excellent	Excellent	Excellent	Conditional	Excellent	Unsatisfactory
Potassium Cyanide, 10% aq	Excellent	Excellent	Excellent	Excellent	Conditional	Unsatisfactory	Good	Unsatisfactory
Potassium Dichromate, 10% aq	Excellent	Excellent	Excellent	Excellent	Conditional	Conditional	Conditional	Conditional
Potassium Hydroxide, to 10%	Good	Good	Excellent	Good	Good	Good	Good	Unsatisfactory
Potassium Hydroxide, over 10%	Conditional	Conditional	Excellent	Unsatisfactory	Good	Good	Good	Unsatisfactory
Potassium Nitrate, 10% aq	Excellent	Excellent	Excellent	Excellent	Good	Good	Excellent	Good
Potassium Sulfate, 10% aq	Excellent	Excellent	Excellent	Excellent	–	–	–	–
Propane (Liquified)	Conditional	Good	–	Excellent	Excellent	Excellent	Excellent	Excellent
Propyl Acetate	Unsatisfactory	Unsatisfactory	Good	Unsatisfactory	Excellent	–	Excellent	Excellent
Propyl Alcohol	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent
Propylene	Unsatisfactory	Unsatisfactory	Unsatisfactory	Excellent	Excellent	Excellent	Excellent	Excellent
Rapeseed oil (B100)	Good	Conditional	Unsatisfactory	Excellent				
Refrigerant R-12	Good	Excellent	Conditional	Excellent	Excellent	Excellent	Excellent	Excellent
Refrigerant R-13	Good	Excellent	Conditional	Excellent	Excellent	Excellent	Excellent	Excellent
Refrigerant R-22	Unsatisfactory	Excellent	Conditional	Unsatisfactory	Excellent	Excellent	Excellent	Excellent
Refrigerant R-134a	Excellent	Conditional	Good	Unsatisfactory	Excellent	Excellent	Excellent	Excellent
Sewage	Excellent	Excellent	Excellent	Excellent	Good	Good	Good	Good
Silicone Oils	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent
Soap (Water Solutions)	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent	Unsatisfactory
Sodium Acetate, 10% aq	Good	Good	Excellent	Unsatisfactory	Excellent	Excellent	Good	Excellent
Sodium Bicarbonate, 10% aq	Excellent	Excellent	Excellent	Excellent	Good	Good	Excellent	Good