

EPDM & FKM

Chemical Resistance Guide



FIRST EDITION

EPDM & FKM CHEMICAL RESISTANCE GUIDE

Elastomers:
Ethylene Propylene (EPDM)
Fluorocarbon (FKM)

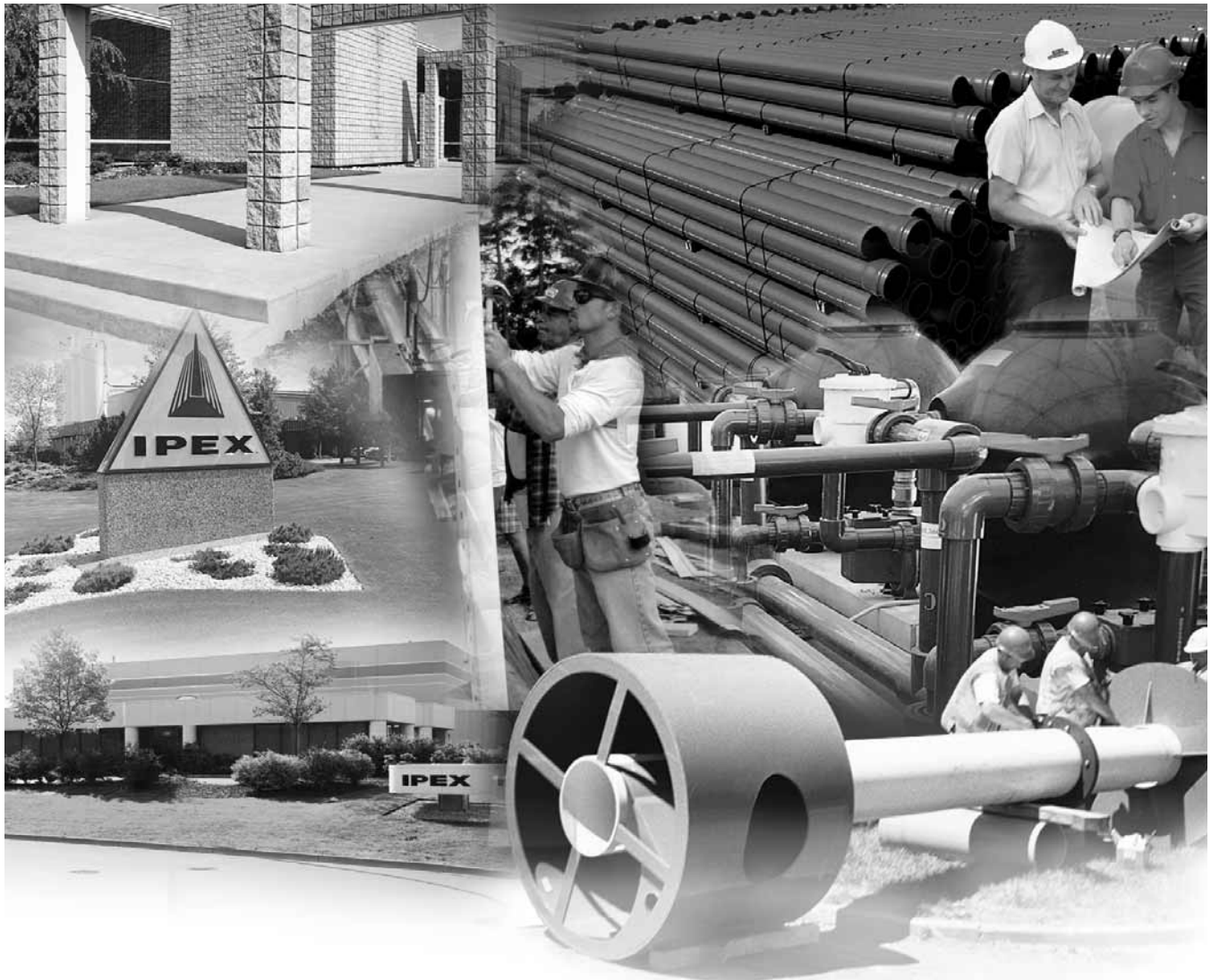
Chemical Resistance Guide

Ethylene Propylene (EPDM) & Fluorocarbon (FKM)

1st Edition

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ABOUT IPEX

At IPEX, we have been manufacturing non-metallic pipe and fittings since 1951. We formulate our own compounds and maintain strict quality control during production. Our products are made available for customers thanks to a network of regional stocking locations throughout North America. We offer a wide variety of systems including complete lines of piping, fittings, valves and custom-fabricated items.

More importantly, we are committed to meeting our customers' needs. As a leader in the plastic piping industry, IPEX continually develops new products, modernizes manufacturing facilities and acquires innovative process technology. In addition, our staff take pride in their work, making available to customers their extensive thermoplastic knowledge and field experience. IPEX personnel are committed to improving the safety, reliability and performance of thermoplastic materials. We are involved in several standards committees and are members of and/or comply with the organizations listed on this page.

For specific details about any IPEX product, contact our customer service department.

INTRODUCTION

Elastomers have outstanding resistance to a wide range of chemical reagents. Selecting the correct elastomer for an application will depend on the chemical resistance, temperature and mechanical properties needed.

Resistance is a function both of temperatures and concentration, and there are many reagents which can be handled for limited temperature ranges and concentrations. In borderline cases, it will be found that there is limited attack, generally resulting in some swelling due to absorption. Resistance is often affected (and frequently reduced) when handling a number of chemicals or compounds containing impurities. For this reason, when specific applications are being considered, it may be worthwhile to carry out tests using the actual product that will be encountered in service. The listing that follows does not address chemical combinations.

The information is based on immersion tests on unstressed coupons, experiments and, when available, actual process experience as well as data from tests inclusive of stress from temperature and pressure. The end user should be aware of the fact that actual service conditions will affect the chemical resistance.

Chemical resistance data from immersion tests cannot be unconditionally applied to elastomer components subjected to high levels of continuous or frequent mechanical or thermal stresses.

When the elastomer will be subject to a continuous applied mechanical or thermal stress, or to combinations of chemicals, testing that duplicates the expected field conditions, as closely as possible, should be performed on representative samples of the elastomer product to properly evaluate the elastomer for use in this application.

RATINGS

Ratings are according to the product and suppliers.

The absence of any class indication for any given materials, signifies the absence of data for such material(s) with respect to the specific chemical(s), temperature(s) and concentration(s).

Note: Chemical resistance data is found in a laboratory setting and cannot account for all possible variables of an installed application. It is up to the design engineer or final user to use this information as guidance for a specific application design.

If a material is chemically resistant to the concentrated form of a specific chemical, it should be resistant to the diluted form of that same chemical.

All Chemical Resistance data for Ethylene Propylene (EPDM) and Fluorocarbon (FKM) contained within this manual has been provided, with written consent, by Parker Hannifin Corporation.

Resistance data was taken from Parker's 2008 edition of the Parker O-ring Handbook.

IMPORTANT NOTICE

This and other information from Parker-Hannifin Corporation, its subsidiaries and authorized distributors provides product or system options for further investigation by users having technical expertise. Before you select or use any product or system, it is important that you analyze all aspects of your application and review the information concerning the product in the current product catalog. The user, through its own analysis and testing, is solely responsible for making the final selection of the system and components and assuring that all performance, safety and warning requirements of the application are met.

NOTES

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ETHYLENE PROPYLENE (EPDM) & FLUOROCARBON (FKM)

All Chemical Resistance data for Ethylene Propylene (EPDM) and Fluorocarbon (FKM) contained within this manual has been provided, with written consent, by Parker Hannifin Corporation.

Resistance data was taken from Parker's 2008 edition of the Parker O-ring Handbook.

Approximate Service Temperature Ranges for EPDM and FKM*

Ethylene Propylene	-70°F to 250°F (-57°C to 121°C)*
Fluorocarbon	-15°F to 400°F (-26°C to 205°C)*

NOTE: *These temperature ranges will apply to the majority of media for which the material is potentially recommended. With some media however, the service temperature range may be significantly different. ALWAYS TEST UNDER ACTUAL SERVICE CONDITIONS.

Compound Compatibility Rating

1	Satisfactory
2	Fair (usually OK for static seal)
3	Doubtful (sometimes OK for static seal)
4	Unsatisfactory
x	Insufficient Data

Chemical resistance for EPDM applies to valves and fittings using EPDM seals. Resistance data for FKM applies only to fittings using FKM seals. For chemical resistance information on valves using FPM seals please refer to FPM Chemical Resistance Guide.

ETHYLENE PROPYLENE (EPDM) & FLUOROCARBON (FKM)

CHEMICAL RESISTANCE DATA

Chemical Substance	EPDM Rating	FKM Rating
A		
Abietic Acid	X	X
Acetaldehyde	2	4
Acetamide	1	3
Acetanilide	1	3
Acetic Acid, 30%	1	X
Acetic Acid, 5%	1	1
Acetic Acid, Glacial	1	2
Acetic Acid, Hot, High Pressure	3	4
Acetic Anhydride	2	4
Acetoacetic Acid	1	3
Acetone	1	4
Acetone Cyanohydrin	1	3
Acetonitrile	1	1
Acetophenetidine	4	1
Acetophenone	1	4
Acetotoluidide	4	1
Acetyl Acetone	1	4
Acetyl Bromide	1	1
Acetyl Chloride	4	1
Acetylene	1	1
Acetylene Tetrabromide	1	1
Acetylene Tetrachloride	1	1
Acetylsalicylic Acid	4	1
Acids, Non-organic	X	X
Acids, Organic	X	X
Aconitic Acid	X	X
Acridine	X	X
Acrolein	1	3
Acrylic Acid	4	1
Acrylonitrile	4	3
Adipic Acid	2	X
Aero Lubriplate	4	1
Aero Shell 17 Grease	4	1
Aero Shell 750	4	1
Aero Shell 7A Grease	4	1
Aero Shell IAC	4	1
Aerosafe 2300	1	4
Aerosafe 2300W	1	4
Aerozene 50 (50% Hydrazine 50% UDMH)	1	4

Chemical Substance	EPDM Rating	FKM Rating
Air, Below 200°F	1	1
Air, 200 - 300°F	2	1
Air, 300 - 400°F	4	1
Air, 400 - 500°F	4	3
Aliphatic Dicarboxylic Acid	4	1
Alkanes (Paraffin Hydrocarbons)	4	1
Alkanesulfonic Acid	4	1
Alkazene	4	2
Alkenes (Olefin Hydrocarbons)	4	1
Alkyl Acetone	1	3
Alkyl Alcohol	4	1
Alkyl Amine	4	1
Alkyl Aryl Sulfonates	4	1
Alkyl Aryl Sulfonics	4	1
Alkyl Benzene	4	1
Alkyl Chloride	4	1
Alkyl Sulfide*	4	1
Alkyl naphthalene Sulfonic Acid	4	1
Allyl Chloride	4	1
Allylidene Diacetate	1	3
Alpha Picoline	1	3
Aluminum Acetate	1	4
Aluminum Bromide	1	1
Aluminum Chlorate	1	3
Aluminum Chloride	1	1
Aluminum Ethylate	X	X
Aluminum Fluoride	1	1
Aluminum Fluorosilicate*	X	X
Aluminum Formate	1	3
Aluminum Hydroxide	1	2
Aluminum Linoleate	4	1
Aluminum Nitrate	1	1
Aluminum Oxalate	1	3
Aluminum Phosphate	1	1
Aluminum Potassium Sulfate	1	3
Aluminum Salts	1	1
Aluminum Sodium Sulfate	1	3
Aluminum Sulfate	1	1
Alums-NH3 -Cr -K	1	4
Ambrex 33 (Mobil)	4	1

1 - Satisfactory

2 - Fair

3 - Doubtful

4 - Unsatisfactory

x - Insufficient Data

ETHYLENE PROPYLENE (EPDM) & FLUOROCARBON (FKM)

CHEMICAL RESISTANCE DATA

Chemical Substance	EPDM Rating	FKM Rating
Ambrex 830 (Mobil)	3	1
Amines-Mixed	2	4
Aminoanthraquinone	X	X
Aminoazobenzene	X	X
Aminobenzene Sulfonic Acid	X	X
Aminobenzoic Acid	X	X
Aminopyridine	X	X
Aminosalicylic Acid	X	X
Ammonia (Anhydrous)	1	4
Ammonia and Lithium Metal in Solution	2	4
Ammonia, Gas, Cold	1	4
Ammonia, Gas, Hot	2	4
Ammonia, Liquid (Anhydrous)	1	4
Ammonium Acetate	1	3
Ammonium Arsenate	1	3
Ammonium Benzoate	1	3
Ammonium Bicarbonate	1	3
Ammonium Bisulfite	1	3
Ammonium Bromide	1	1
Ammonium Carbamate	1	3
Ammonium Carbonate	1	1
Ammonium Chloride, 2N	1	1
Ammonium Citrate	1	3
Ammonium Dichromate	1	3
Ammonium Diphosphate	1	3
Ammonium Fluoride	1	1
Ammonium Fluorosilicate*	X	X
Ammonium Formate	1	3
Ammonium Hydroxide, 3 Molar	1	3
Ammonium Hydroxide, Concentrated	1	4
Ammonium Iodide	1	1
Ammonium Lactate	1	3
Ammonium Metaphosphate	1	3
Ammonium Molybdenate*	1	3
Ammonium Nitrate, 2N	1	X
Ammonium Nitrite	1	X
Ammonium Oxalate	1	3
Ammonium Perchlorate	1	3
Ammonium Perchloride	X	X
Ammonium Persulfate 10%	1	X

Chemical Substance	EPDM Rating	FKM Rating
Ammonium Persulfate Solution	1	X
Ammonium Phosphate	1	4
Ammonium Phosphate, Dibasic	1	X
Ammonium Phosphate, Mono-Basic	1	X
Ammonium Phosphate, Tribasic	1	X
Ammonium Phosphite	1	3
Ammonium Picrate	1	3
Ammonium Polysulfide	1	3
Ammonium Salicylate	1	3
Ammonium Salts	1	3
Ammonium Sulfamate	1	3
Ammonium Sulfate	1	4
Ammonium Sulfate Nitrate	1	4
Ammonium Sulfide	1	4
Ammonium Sulfite	1	3
Ammonium Thiocyanate	1	3
Ammonium Thioglycolate	1	3
Ammonium Thiosulfate	1	3
Ammonium Tungstate	1	3
Ammonium Valerate	1	3
Amyl Acetate	3	4
Amyl Alcohol	1	2
Amyl Borate	4	1
Amyl Butyrate	4	1
Amyl Chloride	4	1
Amyl Chloronaphthalene	4	1
Amyl Cinnamic Aldehyde	4	1
Amyl Laurate	4	1
Amyl Mercaptan	4	1
Amyl Naphthalene	4	1
Amyl Nitrate	1	3
Amyl Nitrite	1	3
Amyl Phenol	X	X
Amyl Propionate	4	1
Anderol, L- 826 (di-ester)	4	1
Anderol, L- 829 (di-ester)	4	1
Anderol, L-774 (di-ester)	4	1
ANG-25 (Di-ester Base) (TG749)	4	1
ANG-25 (Glyceral Ester)	1	1
Aniline	2	3

1 - Satisfactory

2 - Fair

3 - Doubtful

4 - Unsatisfactory

x - Insufficient Data

ETHYLENE PROPYLENE (EPDM) & FLUOROCARBON (FKM)

CHEMICAL RESISTANCE DATA

Chemical Substance	EPDM Rating	FKM Rating
Aniline Dyes	2	2
Aniline Hydrochloride	2	2
Aniline Oil	2	3
Aniline Sulfate	1	3
Aniline Sulfite	1	3
Animal Fats	2	1
Animal Oil (Lard Oil)	2	1
Anisole	X	X
Anisoyl Chloride	X	X
AN-O-3 Grade M	4	1
AN-O-366	4	1
AN-O-6	4	1
Ansul Ether 161 or 181	3	4
Anthracene	4	1
Anthranilic Acid	X	X
Anthraquinone	X	X
Anti-freeze Solutions	1	3
Antimony Chloride	4	1
Antimony Pentachloride	4	1
Antimony Pentafluoride	X	X
Antimony Sulfate	X	X
Antimony Tribromide	4	1
Antimony Trichloride	4	1
Antimony Trifluoride	4	1
Antimony Trioxide	4	1
AN-VV-O-366b Hydr. Fluid	4	1
Aqua Regia	3	2
Arachidic Acid	X	X
Argon	1	1
Aroclor, 1248	2	1
Aroclor, 1254	2	1
Aroclor, 1260	x	1
Aromatic Fuel -50%	4	1
Arsenic Acid	1	1
Arsenic Oxide	X	X
Arsenic Trichloride	4	4
Arsenic Trioxide	4	4
Arsenic Trisulfide	4	4
Arsenites	X	X
Arsine	X	X

Chemical Substance	EPDM Rating	FKM Rating
Aryl Orthosilicate	X	X
Ascorbic Acid	1	3
Askarel Transformer Oil	4	1
Aspartic Acid	1	3
Asphalt	4	1
ASTM Oil, No. 1	4	1
ASTM Oil, No. 2	4	1
ASTM Oil, No. 3	4	1
ASTM Oil, No. 4	4	1
ASTM Oil, No. 5	4	1
ASTM Reference Fuel A	4	1
ASTM Reference Fuel B	4	1
ASTM Reference Fuel C	4	1
ASTM Reference Fuel D	4	1
ATL-857	4	1
Atlantic Dominion F	4	1
Atlantic Utro Gear-e	4	1
Atlantic Utro Gear-EP Lube	4	1
Aure 903R (Mobil)	4	1
AUREX 256	X	X
Automatic Transmission Fluid	4	1
Automotive Brake Fluid	1	4
AXAREL 9100	X	X
Azobenzene	X	X
B		
Bardol B	4	1
Barium Carbonate	1	3
Barium Chlorate	1	3
Barium Chloride	1	1
Barium Cyanide	1	1
Barium Hydroxide	1	1
Barium Iodide	1	1
Barium Nitrate	1	3
Barium Oxide	1	1
Barium Peroxide	1	3
Barium Polysulfide	1	3
Barium Salts	1	1
Barium Sulfate	1	1

1 - Satisfactory

2 - Fair

3 - Doubtful

4 - Unsatisfactory

x - Insufficient Data

ETHYLENE PROPYLENE (EPDM) & FLUOROCARBON (FKM)

CHEMICAL RESISTANCE DATA

Chemical Substance	EPDM Rating	FKM Rating
Barium Sulfide	1	1
Bayol 35	4	1
Bayol D	4	1
Beer	1	1
Beet Sugar Liquids	1	1
Beet Sugar Liquors	1	1
Benzaldehyde	1	4
Benzaldehyde Disulfonic Acid	X	X
Benzamide	4	1
Benzanthrone	4	1
Benzene	4	1
Benzene Hexachloride	X	X
Benzenesulfonic Acid 10%	4	1
Benzidine	4	1
Benzidine 3 Sulfonic Acid	4	1
Benzil	4	1
Benzilic Acid	4	1
Benzine (Ligroin)	4	1
Benzocatechol	4	1
Benzochloride	1	1
Benzoic Acid	4	1
Benzoin	4	1
Benzonitrile	1	3
Benzophenone	2	1
Benzoquinone	2	1
Benzotrichloride	1	1
Benzotrifluoride	1	1
Benzoyl Chloride	X	1
Benzoyl Peroxide	X	X
Benzoylsulfonic Acid	4	1
Benzyl Acetate	1	3
Benzyl Alcohol	2	1
Benzyl Amine	X	X
Benzyl Benzoate	4	1
Benzyl Bromide	4	1
Benzyl Butyl Phthalate	1	3
Benzyl Chloride	4	1
Benzyl Phenol	4	1
Benzyl Salicylate	4	1
Beryllium Chloride	1	1

Chemical Substance	EPDM Rating	FKM Rating
Beryllium Fluoride	1	1
Beryllium Oxide	1	1
Beryllium Sulfate	1	3
Bismuth Carbonate	1	3
Bismuth Nitrate	1	3
Bismuth Oxychloride	1	3
Bittern	X	X
Black Liquor	1	1
Black Point 77	1	1
Blast Furnace Gas	4	1
Bleach Liquor	1	1
Bleach Solutions	1	1
Borax	1	1
Borax Solutions	1	1
Bordeaux Mixture	1	1
Boric Acid	1	1
Boric Oxide	1	3
Borneol	4	1
Bornyl Acetate	4	1
Bornyl Chloride	4	1
Bornyl Formate	4	1
Boron Fluids (HEF)	4	1
Boron Hydride	X	X
Boron Phosphate	X	X
Boron Tribromide	X	X
Boron Trichloride	X	X
Boron Trifluoride	X	X
Boron Trioxide	X	X
Brake Fluid DOT3 (Glycol Type)	1	4
Bray GG-130	4	1
Brayco 719-R (VV-H-910)	1	4
Brayco 885 (MIL-L-6085A)	4	1
Brayco 910	1	4
Bret 710	1	4
Brine	1	1
Brine (Seawater)	3	1
Brom - 113	4	X
Brom - 114	4	2
Bromic Acid	1	3
Bromine	4	1

1 - Satisfactory

2 - Fair

3 - Doubtful

4 - Unsatisfactory

x - Insufficient Data

ETHYLENE PROPYLENE (EPDM) & FLUOROCARBON (FKM)

CHEMICAL RESISTANCE DATA

Chemical Substance	EPDM Rating	FKM Rating
Bromine Pentafluoride Factory	4	4
Bromine Trifluoride Factory	4	4
Bromine Water	2	1
Bromobenzene	4	1
Bromobenzene Cyanide	1	3
Bromochlorotrifluoroethane (Halothane)	4	1
Bromoform	4	1
Bromomethane (Methyl Bromide)	4	1
Bromotrifluoroethylene (BFE)	X	X
Bromotrifluoromethane (F-13B1)	X	X
Brucine Sulfate	1	3
Buffered Oxide Etchants	X	X
Bunker Oil	4	1
Bunker's "C" (Fuel Oil)	X	1
Butadiene (Monomer)	4	1
Butane	4	1
Butane, 2, 2-Dimethyl	4	1
Butane, 2, 3-Dimethyl	4	1
Butanediol	1	3
Butanol (Butyl Alcohol)	2	1
Butene 2-Ethyl (1-Butene 2-Ethyl)	4	1
Butter-Animal Fat	1	1
Butyl Acetate or n-Butyl Acetate	2	4
Butyl Acetyl Ricinoleate	1	1
Butyl Acrylate	1	4
Butyl Alcohol	2	1
Butyl Alcohol (Secondary)	2	1
Butyl Alcohol (Tertiary)	2	1
Butyl Amine or N-Butyl Amine	3	4
Butyl Benzoate	1	3
Butyl Benzoate or n-Butyl Benzoate	1	1
Butyl Benzolate	X	X
Butyl Butyrate or n-Butyl Butyrate	1	1
Butyl Carbitol	1	3
Butyl Cellosolve	2	4
Butyl Cellosolve Acetate	1	3
Butyl Cellosolve Adipate	2	2
Butyl Chloride	4	1
Butyl Ether or n-Butyl Ether	3	4
Butyl Glycolate	1	3

Chemical Substance	EPDM Rating	FKM Rating
Butyl Lactate	1	3
Butyl Laurate	1	3
Butyl Mercaptan (Tertiary)	4	1
Butyl Methacrylate	1	3
Butyl Oleate	2	1
Butyl Oxalate	1	3
Butyl Stearate	4	1
Butylbenzoic Acid	4	1
Butylene	4	1
Butyraldehyde	2	4
Butyric Acid	2	2
Butyric Anhydride	1	3
Butyrolacetone	1	3
Butyryl Chloride	4	1
C		
Cadmium Chloride	1	3
Cadmium Cyanide	1	3
Cadmium Nitrate	1	3
Cadmium Oxide	1	3
Cadmium Sulfate	1	3
Cadmium Sulfide	1	3
Calcine Liquors	1	1
Calcium Acetate	1	4
Calcium Arsenate	1	3
Calcium Benzoate	4	1
Calcium Bicarbonate	1	3
Calcium Bisulfide	1	3
Calcium Bisulfite	1	2
Calcium Bromide	1	1
Calcium Carbide	X	X
Calcium Carbonate	1	1
Calcium Chlorate	1	3
Calcium Chloride	1	1
Calcium Chromate	1	3
Calcium Cyanamide	X	X
Calcium Cyanide	1	X
Calcium Fluoride	1	1
Calcium Gluconate	1	3

1 - Satisfactory

2 - Fair

3 - Doubtful

4 - Unsatisfactory

x - Insufficient Data

ETHYLENE PROPYLENE (EPDM) & FLUOROCARBON (FKM)

CHEMICAL RESISTANCE DATA

Chemical Substance	EPDM Rating	FKM Rating
Calcium Hydride	1	1
Calcium Hydrosulfide	1	3
Calcium Hydroxide	1	1
Calcium Hypochlorite	1	1
Calcium Hypophosphite	1	3
Calcium Lactate	1	3
Calcium Naphthenate	X	X
Calcium Nitrate	1	1
Calcium Oxalate	1	3
Calcium Oxide	1	1
Calcium Permanganate	X	X
Calcium Peroxide	X	X
Calcium Phenolsulfonate	1	3
Calcium Phosphate	1	1
Calcium Phosphate Acid	1	3
Calcium Propionate	1	3
Calcium Pyridine Sulfonate	X	X
Calcium Salts	1	1
Calcium Silicate	1	1
Calcium Stearate	4	1
Calcium Sulfamate	4	1
Calcium Sulfate	1	3
Calcium Sulfide	1	1
Calcium Sulfite	1	1
Calcium Thiocyanate	1	3
Calcium Thiosulfate	1	1
Calcium Tungstate	1	3
Caliche Liquors	1	1
Camphene	4	1
Camphor	4	1
Camphoric Acid	4	1
Cane Sugar Liquors	1	1
Capric Acid	4	1
Caproic Acid	4	1
Caproic Aldehyde	2	4
Caprolactam	4	1
Capronaldehyde	4	1
Carbamate	2	1
Carbazole	X	X
Carbitol	2	2

Chemical Substance	EPDM Rating	FKM Rating
Carbolic Acid (Phenol)	2	1
Carbon Bisulfide	4	1
Carbon Dioxide	1	1
Carbon Dioxide (Explosive Decompression Use)	1	1
Carbon Disulfide	4	1
Carbon Fluorides	4	1
Carbon Monoxide	1	1
Carbon Tetrabromide	X	X
Carbon Tetrachloride	4	1
Carbon Tetrafluoride	4	1
Carbonic Acid	1	1
Casein	1	3
Castor Oil	2	1
Caustic Lime	1	3
Caustic Potash	1	3
Caustic Soda (Sodium Hydroxide)	1	3
Cellosolve	2	4
Cellosolve, Acetate	2	4
Cellosolve, Butyl	2	4
Celluguard	1	1
Cellulose Acetate	1	3
Cellulose Acetate Butyrate	1	3
Cellulose Ether	1	3
Cellulose Nitrate*	1	3
Cellulose Tripropionate	1	3
Cellulube (Phosphate Esters)	X	X
Cellutherm 2505A	4	1
Cerium Sulfate	1	3
Cerous Chloride	1	3
Cerous Fluoride	1	3
Cerous Nitrate	1	3
Cetane (Hexadecane)	4	1
Cetyl Alcohol	4	1
Chaulmoogric Acid	X	X
China Wood Oil (Tung Oil)	4	1
Chloral	1	3
Chloramine	X	X
Chloranthraquinone	4	1
Chlordane	4	1
Chlorextol	4	1

1 - Satisfactory

2 - Fair

3 - Doubtful

4 - Unsatisfactory

x - Insufficient Data

ETHYLENE PROPYLENE (EPDM) & FLUOROCARBON (FKM)

CHEMICAL RESISTANCE DATA

Chemical Substance	EPDM Rating	FKM Rating
Chloric Acid	1	3
Chlorinated Solvents, Dry	4	1
Chlorinated Solvents, Wet	4	1
Chlorine (Dry)	4	1
Chlorine (Plasma)	X	X
Chlorine (Wet)	X	X
Chlorine Dioxide	3	1
Chlorine Dioxide, 8% Cl as NaClO ₂ in solution	4	1
Chlorine Trifluoride	4	4
Chlorine Water	2	1
Chloro 1-Nitro Ethane (1-Chloro 1-Nitro Ethane)	4	4
Chloro Oxyfluorides	X	X
Chloro Xylenols	4	1
Chloroacetaldehyde	1	3
Chloroacetic Acid	2	4
Chloroacetone	1	4
Chloroacetyl Chloride	X	X
Chloroamino Benzoic Acid	1	3
Chloroaniline	1	3
Chlorobenzaldehyde	1	3
Chlorobenzene	4	1
Chlorobenzene (Mono)	4	1
Chlorobenzene Chloride	4	1
Chlorobenzene Trifluoride	4	1
Chlorobenzochloride	4	1
Chlorobenzotrifluoride	4	1
Chlorobromo Methane	2	1
Chlorobromopropane	4	1
Chlorobutadiene	4	1
Chlorobutane (Butyl Chloride)	4	1
Chlorododecane	4	1
Chloroethane	4	1
Chloroethane Sulfonic Acid	1	3
Chloroethylbenzene	4	1
Chloroform	4	1
Chlorohydrin	1	3
Chloronaphthalene or o-Chloronaphthalene	4	1
Chloronitrobenzene	1	3
Chlorophenol or o-Chlorophenol	4	1
Chloropicrin	4	1

Chemical Substance	EPDM Rating	FKM Rating
Chloroprene	4	1
Chlorosilanes	X	X
Chlorosulfonic Acid	4	4
Chlorotoluene	4	1
Chlorotoluene Sulfonic Acid	1	3
Chlorotoluidine	4	1
Chlorotrifluoroethylene (CTFE)	X	X
Chlorox	2	1
Chloroxylols	X	X
Cholesterol	4	1
Chrome Alum	1	1
Chrome Plating Solutions	2	1
Chromic Acid	2	1
Chromic Chloride	X	X
Chromic Fluorides	X	X
Chromic Hydroxide	X	X
Chromic Nitrates	X	X
Chromic Oxide	2	1
Chromic Phosphate	X	X
Chromic Sulfate	X	X
Chromium Potassium Sulfate (Alum)	2	1
Chromyl Chlorides	X	X
Cinnamic Acid	4	1
Cinnamic Alcohol	4	1
Cinnamic Aldehyde	4	1
Circo Light Process Oil	4	1
Citric Acid	1	1
City Service #65 #120 #250	4	1
City Service Koolmoter-AP Gear Oil 140-EP Lube	4	1
City Service Pacemaker #2	4	1
Clorox	2	1
Coal Tar	X	1
Cobalt Chloride	1	1
Cobalt Chloride, 2N	1	1
Cobaltous Acetate	1	3
Cobaltous Bromide	1	1
Cobaltous Linoleate	X	X
Cobaltous Naphthenate	X	X
Cobaltous Sulfate	1	3
Coconut Oil	3	1

1 - Satisfactory

2 - Fair

3 - Doubtful

4 - Unsatisfactory

x - Insufficient Data

ETHYLENE PROPYLENE (EPDM) & FLUOROCARBON (FKM)

CHEMICAL RESISTANCE DATA

Chemical Substance	EPDM Rating	FKM Rating
Cod Liver Oil	1	1
Codeine	4	1
Coffee	1	1
Coke Oven Gas	4	1
Coliche Liquors	2	X
Convelex 10	X	X
Coolanol 20 25R 35R 40& 45A (Monsanto)	3	1
Copper Acetate	1	4
Copper Ammonium Acetate	1	3
Copper Carbonate	1	3
Copper Chloride	1	1
Copper Cyanide	1	1
Copper Gluconate	1	3
Copper Naphthenate	X	X
Copper Nitrate	2	1
Copper Oxide	1	1
Copper Salts	1	1
Copper Sulfate	1	1
Copper Sulfate 10%	1	1
Copper Sulfate 50%	1	1
Corn Oil	3	1
Cottonseed Oil	3	1
Creosote, Coal Tar	4	1
Creosote, Wood	4	1
Cresol (Methyl Phenol)	X	1
Cresols	4	2
Cresylic Acid	4	1
Crotonaldehyde	4	1
Crotonic Acid	4	1
Crude Oil	4	1
Cumaldehyde	4	1
Cumene	4	1
Cumene Hydroperoxide	X	X
Cupric Sulfate	2	1
Cutting Oil	4	1
Cyanamide	X	X
Cyanides	X	X
Cyanogen Chloride	X	X
Cyanogen Gas	X	X
Cyanohydrin	X	X

Chemical Substance	EPDM Rating	FKM Rating
Cyanuric Chloride	X	X
Cyclohexane	4	1
Cyclohexanol	4	1
Cyclohexanone	2	4
Cyclohexene	4	1
Cyclohexylamine	4	1
Cyclohexylamine Carbonate	X	X
Cyclohexylamine Laurate	4	1
Cyclopentadiene	4	1
Cyclopentane	4	1
Cyclopolyolefins	4	1
Cymene or p-Cymene	4	1
D		
DDT (Dichlorodiphenyltrichloroethane)	4	1
Decalin	4	1
Decane	4	1
Delco Brake Fluid	1	4
Denatured Alcohol	1	1
Detergent, Water Solution	1	1
Developing Fluids (Photo)	2	1
Dexron	4	1
Dextrin	4	1
Dextro Lactic Acid	1	3
Dextron	4	1
Dextrose	1	3
DI Water	1	2
Diacetone	1	4
Diacetone Alcohol	1	4
Dialkyl Sulfates	1	3
Diallyl Ether	X	X
Diallyl Phthalate	X	X
Diamylamine	4	1
Diazinon	4	2
Dibenzyl (sym-Diphenylethane)	4	1
Dibenzyl Ether Factory	2	4
Dibenzyl Sebacate	2	2
Diborane	X	X
Dibromoethane	4	1

1 - Satisfactory

2 - Fair

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x - Insufficient Data

ETHYLENE PROPYLENE (EPDM) & FLUOROCARBON (FKM)

CHEMICAL RESISTANCE DATA

Chemical Substance	EPDM Rating	FKM Rating
Dibromoethyl Benzene	4	1
Dibutyl Cellosolve Adipate	1	3
Dibutyl Ether Factory	3	3
Dibutyl Methyleneithio Glycolate	4	1
Dibutyl Phthalate	2	3
Dibutyl Sebacate	2	2
Dibutyl Thioglycolate	4	1
Dibutyl Thiourea	4	1
Dibutylamine	1	4
Dichloroacetic Acid	4	1
Dichloroaniline	1	3
Dichlorobenzene or o-Dichlorobenzene	4	1
Dichlorobenzene or p-Dichlorobenzene	4	1
Dichlorobutane	4	1
Dichlorobutene	4	1
Dichlorodiphenyl-Dichloroethane (DDD)	4	1
Dichloroethane	4	1
Dichloroethylene	4	1
Dichlorohydrin	1	3
Dichloroisopropyl Ether	3	3
Dichloromethane	4	1
Dichlorophenol	4	1
Dichlorophenoxyacetic Acid	4	1
Dichloropropane	4	1
Dichloropropene	4	1
Dichlorosilane	X	X
Dicyclohexylamine	4	4
Dicyclohexylammonium Nitrate	1	3
Dieldrin	4	1
Diesel Oil	4	1
Di-ester Lubricant MIL-L-7808	4	1
Di-ester Synthetic Lubricants	4	1
Diethanolamine (DEA)	1	3
Diethyl Benzene	X	1
Diethyl Carbonate	1	3
Diethyl Ether	4	4
Diethyl Phthalate	4	1
Diethyl Sebacate	2	2
Diethyl Sulfate	1	3
Diethylamine	1	4

Chemical Substance	EPDM Rating	FKM Rating
Diethylaniline	1	3
Diethylene Glycol	1	1
Diethylenetriamine	X	X
Difluorodibromomethane	2	X
Difluoroethane	4	1
Difluoromonoethanoethane	4	1
Diglycol Chloroformate	1	3
Diglycolic Acid	1	3
Dihydroxydiphenylsulfone	1	3
Diisobutyl Ketone	1	X
Diisobutylcarbinol	4	1
Diisobutylene	4	1
Diisooctyl Sebacate	3	2
Diisopropyl Ether (DIPE)	X	X
Diisopropyl Ketone	1	4
Diisopropylbenzene	4	1
Diisopropylidene Acetone	4	1
Dimethyl Acetamide	1	3
Dimethylaniline (Xylidine)	4	1
Dimethyldisulfide (DMDS)	4	1
Dimethyl Ether	2	2
Dimethyl Formaldehyde	1	3
Dimethyl Formamide (DMF)	1	4
Dimethylhydrazine	1	3
Dimethyl Phenyl Carbinol	4	1
Dimethyl Phenyl Methanol	4	1
Dimethyl Phthalate	2	2
Dimethyl Sulfoxide (DMSO)	1	3
Dimethyl Terephthalate (DMT)	4	1
Dimethylamine (DMA)	1	4
Dinitrochlorobenzene	4	1
Dinitrogen Tetroxide	X	X
Dinitrotoluene (DNT)	4	4
Diethyl Phthalate	2	2
Diethyl Sebacate	2	2
Diethylamine	4	1
Dioxane	2	4
Dioxolane	2	4
Dipentene	4	1
Diphenyl	4	1

1 - Satisfactory

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x - Insufficient Data

ETHYLENE PROPYLENE (EPDM) & FLUOROCARBON (FKM)

CHEMICAL RESISTANCE DATA

Chemical Substance	EPDM Rating	FKM Rating
Diphenyl Oxides	4	1
Diphenylamine (DPA)	4	1
Diphenylene Oxide	X	X
Diphenylpropane	4	1
Disilane	X	X
Di-Tert-Butyl Peroxide	X	X
Dodecylbenzene	4	1
Dow Chemical 50-4	1	4
Dow Chemical ET378	X	X
Dow Chemical ET588	1	4
Dow Corning -11	1	1
Dow Corning -1208, 4050, 6620, F-60, XF-60	1	1
Dow Corning -1265 Fluorosilicone Fluid	1	1
Dow Corning -200	1	1
Dow Corning -220	1	1
Dow Corning -3	1	1
Dow Corning -33	1	1
Dow Corning -4	1	1
Dow Corning -44	1	1
Dow Corning -5	1	1
Dow Corning -510	1	1
Dow Corning -55	1	1
Dow Corning -550	1	1
Dow Corning -704	1	1
Dow Corning -705	1	1
Dow Corning -710	1	1
Dow Corning F-61	1	1
Dow Guard	1	1
Dowanol P Mix	X	X
Dowtherm, 209	1	4
Dowtherm, A	4	1
Dowtherm, E	4	1
Drinking Water	1	1
Dry Cleaning Fluids	4	1
DTE 20 Series, Mobil	4	1
DTE named series, Mobil, light-heavy	4	1
E		
Elco 28-EP lubricant	4	1

Chemical Substance	EPDM Rating	FKM Rating
Epichlorohydrin	2	4
Epoxy Resins	1	4
Erucic Acid	X	X
Esam-6 Fluid	1	4
Esso Fuel 208	4	1
Esso Golden Gasoline	4	1
Esso Motor Oil	4	1
Esso Transmission Fluid (Type A)	4	1
Esso WS2812 (MIL-L-7808A)	4	1
Esso XP90-EP Lubricant	4	1
Esstic 42, 43	4	1
Ethane	4	1
Ethanol	1	3
Ethanol Amine	1	4
Ethers	3	3
Ethoxyethyl Acetate (EGMEEA)	1	3
Ethyl Acetate-Organic Ester	2	4
Ethyl Acetoacetate	2	4
Ethyl Acrylate	2	4
Ethyl Alcohol	1	3
Ethyl Ammonium Dichloride	X	X
Ethyl Benzene	4	1
Ethyl Benzoate	4	1
Ethyl Bromide	4	1
Ethyl Cellosolve	2	4
Ethyl Cellulose	2	4
Ethyl Chloride	3	1
Ethyl Chlorocarbonate	2	1
Ethyl Chloroformate	2	4
Ethyl Ether	3	4
Ethyl Formate	2	1
Ethyl Hexanol	1	1
Ethyl Lactate	1	3
Ethyl Mercaptan	X	2
Ethyl Nitrite	1	3
Ethyl Oxalate	1	2
Ethyl Pentachlorobenzene	4	1
Ethyl Pyridine	4	1
Ethyl Silicate	1	1
Ethyl Stearate	4	1

1 - Satisfactory

2 - Fair

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4 - Unsatisfactory

x - Insufficient Data

ETHYLENE PROPYLENE (EPDM) & FLUOROCARBON (FKM)

CHEMICAL RESISTANCE DATA

Chemical Substance	EPDM Rating	FKM Rating
Ethyl Sulfate	1	4
Ethyl Tertiary Butyl Ether	X	X
Ethyl Valerate	4	1
Ethylacrylic Acid	2	X
Ethylamine	1	3
Ethylcyclopentane	4	1
Ethylene	4	2
Ethylene Chloride	4	2
Ethylene Chlorohydrin	2	1
Ethylene Cyanohydrin	4	1
Ethylene Diamine	1	4
Ethylene Dibromide	3	1
Ethylene Dichloride	3	1
Ethylene Glycol	1	1
Ethylene Hydrochloride	3	1
Ethylene Oxide	3	4
Ethylene Oxide, (12%) and Freon 12 (80%)	2	4
Ethylene Trichloride	3	1
Ethyleneimine	X	X
Ethylmorpholine Stannous Octotrate (50/50 mixture)	2	4
Ethylmorpholine	4	1
Ethylsulfuric Acid	1	3
F		
F-60 Fluid (Dow Corning)	1	1
F-61 Fluid (Dow Corning)	1	1
Fatty Acids	3	1
FC-43 Heptacosofluorotri-butylamine	1	1
FC75 & FC77 (Fluorocarbon)	1	2
Ferric Acetate	1	3
Ferric Ammonium Sulfate	1	3
Ferric Chloride	1	1
Ferric Ferrocyanide	1	3
Ferric Hydroxide	1	3
Ferric Nitrate	1	1
Ferric Persulfate	1	1
Ferric Sulfate	1	1
Ferrous Ammonium Citrate	1	3
Ferrous Ammonium Sulfate	1	3

Chemical Substance	EPDM Rating	FKM Rating
Ferrous Carbonate	1	3
Ferrous Chloride	X	X
Ferrous Iodide	1	3
Ferrous Sulfate	1	3
Ferrous Tartrate	1	3
Fish Oil	4	1
Fisher Reagent	2	X
Fluorinated Cyclic Ethers	1	X
Fluorine (Gas)	X	X
Fluorine (Liquid)	4	2
Fluorobenzene	4	1
Fluoroboric Acid	1	X
Fluorocarbon Oils	1	X
Fluoroform (Trifluoromethane)	X	X
Fluorolube	1	2
Fluorophosphoric Acid	X	X
Fluorosilicic Acid	2	2
Fluorosulfonic Acid	X	X
Formaldehyde	2	4
Formamide	1	3
Formic Acid	1	4
Freon, 11	4	2
Freon, 112 (Tetrachlorodifluoroethane)	4	1
Freon, 113	4	2
Freon, 113 + High and Low Aniline Oil	X	X
Freon, 114	1	1
Freon, 114B2	4	2
Freon, 115, 116	1	2
Freon, 12	3	3
Freon, 12 and ASTM Oil #2 (50/50 Mixture)	4	1
Freon, 12 and Suniso 4G (50/50 Mixture)	4	1
Freon, 123 (Dichlorotrifluoroethane)	X	X
Freon, 124 (Chlorotetrafluoroethane)	X	X
Freon, 125 (Pentafluoroethane)	X	X
Freon, 13	1	1
Freon, 134a (Tetrafluoroethane)	X	X
Freon, 13B1	1	1
Freon, 14	1	1
Freon, 141b (Dichlorofluoroethane)	X	X
Freon, 142b	4	2

1 - Satisfactory

2 - Fair

3 - Doubtful

4 - Unsatisfactory

x - Insufficient Data

ETHYLENE PROPYLENE (EPDM) & FLUOROCARBON (FKM)

CHEMICAL RESISTANCE DATA

Chemical Substance	EPDM Rating	FKM Rating
Freon, 152a (Difluoroethane)	X	X
Freon, 21	4	4
Freon, 218	1	1
Freon, 22 (Chlorodifluoroethane)	3	4
Freon, 22 and ASTM Oil #2 (50/50 Mixture)	4	2
Freon, 23 (Fluoroform)	X	X
Freon, 31	1	4
Freon, 32	1	4
Freon, 502	1	2
Freon, BF (R112)	4	1
Freon, C316	1	1
Freon, C318	1	2
Freon, K-142b	1	4
Freon, K-152a	1	4
Freon, MF (R11)	4	2
Freon, PCA (R113)	4	2
Freon, TA	2	3
Freon, TC	2	1
Freon, TF (R113)	4	2
Freon, TMC	3	1
Freon, T-P35	1	1
Freon, T-WD602	2	1
Fuel Oil, #6	4	1
Fuel Oil, 1, and 2	4	1
Fuel Oil, Acidic	4	1
Fumaric Acid	2	1
Fuming Sulphuric Acid (20/25% Oleum)	4	1
Furaldehyde	2	4
Furan (Furfuran)	3	1
Furfural (Furfuraldehyde)	2	4
Furfuraldehyde	2	4
Furfuryl Alcohol	2	X
Furoic Acid	X	X
Furyl Carbinol	2	X
Fyrquel 150 220 300 550	1	1
Fyrquel 90, 100, 500	1	1
Fyrquel A60	2	4

Chemical Substance	EPDM Rating	FKM Rating
G		
Gallic Acid	2	1
Gasoline	4	1
Gelatin	1	1
Germane (Germanium Tetrahydride)	X	X
Girling Brake Fluid	1	4
Glauber's Salt	2	1
Gluconic Acid	1	3
Glucose	1	1
Glue	X	X
Glutamic Acid	1	3
Glycerine (Glycerol)	1	1
Glycerol Dichlorohydrin	1	3
Glycerol Monochlorohydrin	1	3
Glycerol Triacetate	1	3
Glycerophosphoric Acid	1	3
Glyceryl Phosphate	1	3
Glycidol	1	3
Glycol Monoether	X	X
Glycolic Acid	1	3
Glycols	1	1
Glyoxylic Acid	1	3
Grease Petroleum Base	4	1
Green Sulfate Liquor	1	1
Gulf Endurance Oils	4	1
Gulf FR Fluids (Emulsion)	4	1
Gulf FR G-Fluids	1	1
Gulf FR P-Fluids	2	2
Gulf Harmony Oils	4	1
Gulf High Temperature Grease	4	1
Gulf Legion Oils	4	1
Gulf Paramount Oils	4	1
Gulf Security Oils	4	1
Gulfcrown Grease	4	1
H		
Halothane	4	1
Halowax Oil	4	1
Hannifin Lube A	4	1

1 - Satisfactory

2 - Fair

3 - Doubtful

4 - Unsatisfactory

x - Insufficient Data

ETHYLENE PROPYLENE (EPDM) & FLUOROCARBON (FKM)

CHEMICAL RESISTANCE DATA

Chemical Substance	EPDM Rating	FKM Rating
Heavy Water	1	X
HEF-2 (High Energy Fuel)	4	1
Helium	1	1
Heptachlor	4	1
Heptachlorobutene	4	1
Heptaldehyde (Heptanal)	4	1
Heptane or n-Heptane	4	1
Heptanoic Acid	4	1
Hexachloroacetone	1	3
Hexachlorobutadiene	4	1
Hexachlorobutene	4	1
Hexachloroethane	4	1
Hexaethyl Tetraphosphate	X	X
Hexafluoroethane (F-116)	X	X
Hexafluoroxylene	X	X
Hexaldehyde or n-Hexaldehyde	1	4
Hexamethyldisilazane	X	X
Hexamethylene (Cyclohexane)	4	1
Hexamethylene Diammonium Adipate	4	1
Hexamethylenediamine	1	3
Hexamethylenetetramine	1	3
Hexane or n-Hexane	1	1
Hexene-1 or n-Hexene-1	4	1
Hexone (Methyl Isobutyl Ketone)	1	3
Hexyl Acetate	4	1
Hexyl Alcohol	3	1
Hexylene Glycol	1	3
Hexylresorcinol	4	1
High Viscosity Lubricant, H2	1	1
High Viscosity Lubricant, U4	1	1
HiLo MS #1	1	4
Houghto-Safe 1010 phosphate ester	1	1
Houghto-Safe 1055 phosphate ester	1	1
Houghto-Safe 1120 phosphate ester	2	1
Houghto-Safe 271 (Water & Glycol Base)	1	2
Houghto-Safe 416 & 500 Series	1	X
Houghto-Safe 5040 (Water/Oil emulsion)	4	1
Houghto-Safe 620 Water/Glycol	1	2
Hydraulic Oil (Petroleum Base, Industrial)	4	1
Hydraulic Oils (Synthetic Base)	4	1

Chemical Substance	EPDM Rating	FKM Rating
Hydrazine	1	4
Hydrazine (Anhydrous)	2	4
Hydrazine Dihydrochloride	1	3
Hydrazine Hydrate	1	3
Hydriodic Acid	4	1
Hydroabietyl Alcohol	X	X
Hydrobromic Acid	1	1
Hydrobromic Acid 40%	1	1
Hydrocarbons, Saturated	4	1
Hydrochloric Acid (cold) 37%	3	1
Hydrochloric Acid (hot) 37%	3	1
Hydrochloric Acid, 3 Molar to 158°F	1	1
Hydrochloric Acid, Concentrated Room Temp.	2	1
Hydrochloric Acid, Concentrated to 158°F	4	1
Hydrocyanic Acid	1	1
Hydro-Drive MIH-10 (Petroleum Base)	4	1
Hydro-Drive MIH-50 (Petroleum Base)	4	1
Hydrofluoric Acid (Anhydrous)	X	X
Hydrofluoric Acid (conc.) Cold	X	X
Hydrofluoric Acid (conc.) Hot	4	3
Hydrofluorosilicic Acid	1	1
Hydrogen Bromide (Anhydrous)	X	X
Hydrogen Chloride (Anhydrous)	X	X
Hydrogen Chloride gas	1	1
Hydrogen Cyanide	X	X
Hydrogen Fluoride	X	X
Hydrogen Fluoride (Anhydrous)	1	4
Hydrogen Gas, Cold	1	1
Hydrogen Gas, Hot	1	1
Hydrogen Iodide (Anhydrous)	X	X
Hydrogen Peroxide	1	1
Hydrogen Peroxide 90%	3	1
Hydrogen Selenide	X	X
Hydrogen Sulfide, Dry, Cold	1	4
Hydrogen Sulfide, Dry, Hot	1	4
Hydrogen Sulfide, Wet, Cold	1	4
Hydrogen Sulfide, Wet, Hot	1	4
Hydrolube-Water/Ethylene Glycol	1	1
Hydrooxycitronellal	X	1
Hydroquinol	4	1

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x - Insufficient Data

ETHYLENE PROPYLENE (EPDM) & FLUOROCARBON (FKM)

CHEMICAL RESISTANCE DATA

Chemical Substance	EPDM Rating	FKM Rating
Hydroquinone	2	2
Hydroxyacetic Acid	1	3
Hydrene	1	4
Hyjet	1	4
Hyjet IV and IVA	1	4
Hyjet S4	1	4
Hyjet W	1	4
Hypochlorous Acid	2	1
I		
Indole	X	1
Industron FF44	4	1
Industron FF48	4	1
Industron FF53	4	1
Industron FF80	4	1
Insulin	1	3
Iodic Acid	1	3
Iodine	2	1
Iodine Pentafluoride	4	4
Iodoform	4	1
Isoamyl Acetate	1	3
Isoamyl Butyrate	1	3
Isoamyl Valerate	1	3
Isoboreol	X	1
Isobutane	4	1
Isobutyl Acetate	1	3
Isobutyl Alcohol	1	1
Isobutyl Chloride	4	1
Isobutyl Ether	4	4
Isobutyl Methyl Ketone	1	3
Isobutyl n-Butyrate	1	1
Isobutyl Phosphate	1	3
Isobutylene	X	1
Isobutyraldehyde	2	4
Isobutyric Acid	2	4
Isocrotyl Chloride	X	1
Isodecanol	4	1
Isododecane	4	1
Isoeugenol	4	1

Chemical Substance	EPDM Rating	FKM Rating
Isooctane	4	1
Isopentane	4	1
Isophorone (Ketone)	2	4
Isopropanol	1	1
Isopropyl Acetate	2	4
Isopropyl Alcohol	1	1
Isopropyl Chloride	4	1
Isopropyl Ether	4	4
Isopropylacetone	1	3
Isopropylamine	1	3
J		
Jet Fuel A	4	1
JP-10	4	1
JP-3 (MIL-J-5624)	4	1
JP-4 (MIL-T-5624)	4	1
JP-5 (MIL-T-5624)	4	1
JP-6 (MIL-J-25656)	4	1
JP-8 (MIL-T-83133)	4	1
JP-9 (MIL-F-81912)	4	1
JP-9 -11	4	1
JPX (MIL-F-25604)	4	4
K		
Kel F Liquids	1	2
Kerosene (Similar to RP-1 and JP-1)	4	1
Keystone #87HX-Grease	4	1
L		
Lacquer Solvents	4	4
Lacquers	4	4
Lactams-Amino Acids	2	4
Lactic Acid, Cold	1	1
Lactic Acid, Hot	4	1
Lactones (Cyclic Esters)	2	4
Lard Animal Fat	2	1
Lauric Acid	4	1

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2 - Fair

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x - Insufficient Data

ETHYLENE PROPYLENE (EPDM) & FLUOROCARBON (FKM)

CHEMICAL RESISTANCE DATA

Chemical Substance	EPDM Rating	FKM Rating
Lavender Oil	4	1
LB 135	1	1
Lead (Molten)	X	X
Lead Acetate	1	4
Lead Arsenate	1	3
Lead Azide	X	X
Lead Bromide	1	3
Lead Carbonate	1	3
Lead Chloride	1	3
Lead Chromate	1	3
Lead Dioxide	1	3
Lead Linoleate	1	3
Lead Naphthenate	X	X
Lead Nitrate	1	X
Lead Oxide	1	3
Lead Sulfamate	1	1
Lehigh X1169	4	1
Lehigh X1170	4	1
Light Grease	4	1
Ligroin (Petroleum Ether or Benzene)	4	1
Lime Bleach	1	1
Lime Sulfur	X	1
Lindol, Hydraulic Fluid (Phosphate ester type)	1	2
Linoleic Acid	4	2
Linseed Oil	3	1
Liquid Oxygen (LOX)	4	4
Liquid Petroleum Gas (LPG)	4	1
Liquimoly	4	1
Lithium Bromide (Brine)	1	3
Lithium Carbonate	1	3
Lithium Chloride	1	3
Lithium Citrate	1	3
Lithium Hydroxide	1	3
Lithium Hypochlorite	1	3
Lithium Nitrate	1	3
Lithium Nitrite	1	3
Lithium Perchlorate	1	3
Lithium Salicylate	1	3
Lithopone	1	3
Lubricating Oils (Crude & Refined)	4	1

Chemical Substance	EPDM Rating	FKM Rating
Lubricating Oils (Synthetic base)	X	1
Lubricating Oils, Di-ester	4	1
Lubricating Oils, petroleum base	4	1
Lubricating Oils, SAE 10, 20, 30, 40, 50	4	1
Lye Solutions	1	2
M		
Magnesium Chloride	1	1
Magnesium Hydroxide	1	1
Magnesium Salts	1	1
Magnesium Sulfite and Sulfate	1	1
Magnesium Trisilicate	X	X
Malathion	4	1
Maleic Acid	4	1
Maleic Anhydride	2	4
Maleic Hydrazide	1	3
Malic Acid	2	1
Mandelic Acid	1	3
Manganese Acetate	1	3
Manganese Carbonate	1	3
Manganese Chloride	1	3
Manganese Dioxide	1	3
Manganese Gluconate	1	3
Manganese Hypophosphite	1	3
Manganese Linoleate	1	3
Manganese Naphthenate	X	X
Manganese Phosphate	1	3
Manganese Sulfate	1	3
Manganous Chloride	1	3
Manganous Phosphate	1	3
Manganous Sulfate	1	3
Mannitol	1	3
MCS 312	4	1
MCS 352	1	4
MCS 463	1	4
MDI (Methylene di-p-phenylene isocyanate)	1	3
Mercaptan	4	1
Mercaptobenzothiazole (MBT)	X	1
Mercuric Acetate	1	3

1 - Satisfactory

2 - Fair

3 - Doubtful

4 - Unsatisfactory

x - Insufficient Data

ETHYLENE PROPYLENE (EPDM) & FLUOROCARBON (FKM)

CHEMICAL RESISTANCE DATA

Chemical Substance	EPDM Rating	FKM Rating
Mercuric Chloride	1	1
Mercuric Cyanide	1	3
Mercuric Iodide	1	3
Mercuric Nitrate	1	3
Mercuric Sulfate	1	3
Mercuric Sulfite	1	3
Mercurous Nitrate	1	3
Mercury	1	1
Mercury Chloride	1	3
Mercury Fulminate	1	3
Mercury Salts	1	3
Mercury Vapors	1	1
Mesityl Oxide (Ketone)	2	4
Meta-Cresol	X	1
Metalddehyde	1	3
Meta-Nitroaniline	1	3
Meta-Toluidine	X	1
Methacrylic Acid	1	3
Methallyl Chloride	X	1
Methane	4	1
Methanol	1	4
Methoxychlor	X	X
Methoxyethanol (DGMMA)	1	3
Methyl Abietate	X	1
Methyl Acetate	2	4
Methyl Acetoacetate	2	4
Methyl Acetophenone*	X	1
Methyl Acrylate	2	4
Methyl Alcohol	1	4
Methyl Amylketone	1	3
Methyl Anthranilate	X	1
Methyl Benzoate	4	1
Methyl Bromide	4	1
Methyl Butyl Ketone	1	4
Methyl Butyrate Cellosolve	1	3
Methyl Butyrate Chloride	1	3
Methyl Carbonate	4	1
Methyl Cellosolve	2	4
Methyl Cellulose	2	4
Methyl Chloride	3	1

Chemical Substance	EPDM Rating	FKM Rating
Methyl Chloroacetate	1	3
Methyl Chloroform	4	1
Methyl Chloroformate	4	1
Methyl Chlorosilanes	X	X
Methyl Cyanide (Acetonitrile)	1	3
Methyl Cyclohexanone	4	1
Methyl Dichloride	X	1
Methyl Ether	4	1
Methyl Ethyl Ketone (MEK)	1	4
Methyl Ethyl Ketone Peroxide	4	4
Methyl Ethyl Oleate	X	1
Methyl Formate	2	X
Methyl Hexyl Ketone (2-Octanone)	1	3
Methyl Iodide	4	1
Methyl Isobutyl Ketone (MIBK)	3	4
Methyl Isocyanate	1	3
Methyl Isopropyl Ketone	2	4
Methyl Isovalerate	X	1
Methyl Lactate	1	3
Methyl Mercaptan	1	X
Methyl Methacrylate	4	4
Methyl Oleate	2	1
Methyl Pentadiene	X	1
Methyl Phenylacetate	X	1
Methyl Salicylate	2	X
Methyl Tertiary Butyl Ether (MTBE)	3	3
Methyl Valerate	X	1
Methyl-2-Pyrrolidone or n-Methyl-2-Pyrrolidone	2	X
Methylacrylic Acid	2	3
Methylal	X	X
Methylamine	1	3
Methylamyl Acetate	1	3
Methylcyclopentane	4	1
Methylene Bromide	X	1
Methylene Chloride	4	2
Methylene Iodide	X	1
Methylglycerol	1	3
Methylisobutyl Carbinol	4	1
Methylpyrrolidone	X	1
Methylpyrrolidone	X	1

1 - Satisfactory

2 - Fair

3 - Doubtful

4 - Unsatisfactory

x - Insufficient Data

ETHYLENE PROPYLENE (EPDM) & FLUOROCARBON (FKM)

CHEMICAL RESISTANCE DATA

Chemical Substance	EPDM Rating	FKM Rating	Chemical Substance	EPDM Rating	FKM Rating
Methylsulfuric Acid	1	3	MIL-J-5161	4	1
MIL-A-6091	1	1	Milk	1	1
MIL-C-4339	4	1	MIL-L-15016	4	1
MIL-C-7024	4	1	MIL-L-15017	4	1
MIL-C-8188	4	2	MIL-L-17331	4	1
MIL-E-9500	1	1	MIL-L-2104	4	1
MIL-F-16884	4	1	MIL-L-21260	4	1
MIL-F-17111	4	1	MIL-L-23699	4	1
MIL-F-25558 (RJ-1)	4	1	MIL-L-25681	1	1
MIL-F-25656	4	1	MIL-L-3150	4	1
MIL-F-5566	1	1	MIL-L-6081	4	1
MIL-F-81912 (JP-9)	4	1	MIL-L-6082	4	1
MIL-F-82522 (RJ-4)	4	1	MIL-L-6085	4	1
MIL-G-10924	4	1	MIL-L-6387	4	1
MIL-G-15793	4	1	MIL-L-7808	4	1
MIL-G-21568	1	1	MIL-L-7870	4	1
MIL-G-25013	1	1	MIL-L-9000	4	1
MIL-G-25537	4	1	MIL-L-9236	4	1
MIL-G-25760	4	1	MIL-O-3503	4	1
MIL-G-3278	4	1	MIL-P-27402	1	X
MIL-G-3545	4	1	MIL-R-25576 (RP-1)	4	1
MIL-G-4343	3	1	MIL-S-3136, Type I Fuel	4	1
MIL-G-5572	4	1	MIL-S-3136, Type II Fuel	4	1
MIL-G-7118	4	1	MIL-S-3136, Type III Fuel	4	1
MIL-G-7187	4	1	MIL-S-3136, Type IV Oil High Swell	4	1
MIL-G-7421	4	1	MIL-S-3136, Type IV Oil Low Swell	4	1
MIL-G-7711	4	1	MIL-S-3136, Type V Oil Medium Swell	4	1
MIL-H-13910	1	1	MIL-S-81087	1	1
MIL-H-19457	2	1	MIL-T-5624, JP-4, JP-5	4	1
MIL-H-22251	1	X	MIL-T-83133	4	1
MIL-H-27601	4	1	Mineral Oils	3	1
MIL-H-46170 -15°F to +400°F	4	1	Mixed Acids	1	3
MIL-H-46170 -20°F to +275°F	4	1	MLO-7277 Hydr.	4	1
MIL-H-46170 -55°F to +275°F	4	1	MLO-7557	4	1
MIL-H-46170 -65°F to +275°F	4	1	MLO-8200 Hydr.	4	1
MIL-H-5606 -65°F to +235°F	4	1	MLO-8515	4	1
MIL-H-5606 -65°F to +275°F	4	1	Mobil 24dte	4	1
MIL-H-6083	4	1	Mobil 254 Lubricant	X	X
MIL-H-7083	1	2	Mobil Delvac 1100, 1110, 1120, 1130	4	1
MIL-H-8446 (MLO-8515)	4	1	Mobil HF	4	1

1 - Satisfactory

2 - Fair

3 - Doubtful

4 - Unsatisfactory

x - Insufficient Data

ETHYLENE PROPYLENE (EPDM) & FLUOROCARBON (FKM)

CHEMICAL RESISTANCE DATA

Chemical Substance	EPDM Rating	FKM Rating
Mobil Nivac 20, 30	1	1
Mobil SHC 500 Series	4	1
Mobil SHC 600 Series	4	1
Mobil Therm 600	4	1
Mobil Velocite c	4	1
Mobilgas WA200 ATF	4	1
Mobilgear 600 Series	3	1
Mobilgear SHC ISO Series	3	1
Mobilgrease HP	4	1
Mobilgrease HTS	4	1
Mobilgrease SM	4	1
Mobilith AW Series	4	1
Mobilith SHC Series	4	1
Mobiljet II Lubricant	X	X
Mobilmistlube Series	3	1
Mobiloil SAE 20	4	1
Mobilux	4	1
Molybdenum Disulfide Grease	4	1
Molybdenum Oxide	1	3
Molybdenum Trioxide	1	3
Molybdic Acid	1	3
Monobromobenzene	4	1
Monobromotoluene	X	1
Monobutyl Paracresol	X	X
Monochloroacetic Acid	1	3
Monochlorobenzene	4	1
Monochlorobutene	X	1
Monochlorohydrin	X	X
Monoethanolamine (MEA)	2	4
Monoethyl Amine	1	3
Monoisopropylamine	1	3
Monomethyl Aniline	1	2
Monomethyl Ether (Dimethyl Ether)	X	X
Monomethyl Ether (Methyl Ether)	4	1
Monomethyl Hydrazine	1	X
Monomethylamine (MMA)	1	3
Monomethylaniline	2	2
Mononitrotoluene	1	3
Mononitrotoluene & Dinitrotoluene (40/60 Mixture)	1	3
Monovinyl Acetylene	1	1

Chemical Substance	EPDM Rating	FKM Rating
Mopar Brake Fluid	1	4
Morpholine	X	1
Motor Oils	4	1
Mustard Gas	X	X
Myristic Acid	X	1
N		
Naphthalene	4	1
Naphthalene Chloride	X	1
Naphthalene Sulfonic Acid	X	1
Naphthalenic Acid	X	1
Naphthalonic Acid	X	1
Naphthenic Acid	4	1
Naphthylamine	X	X
Naptha	4	1
Natural Gas	4	1
Neatsfoot Oil	2	1
Neon	1	1
Neville Acid	2	1
Nickel Acetate	1	4
Nickel Ammonium Sulfate	1	3
Nickel Chloride	1	1
Nickel Cyanide	1	3
Nickel Nitrate	1	3
Nickel Salts	1	1
Nickel Sulfate	1	1
Nicotinamide (Niacinamide)	X	1
Nicotinamide Hydrochloride	1	3
Nicotine	X	1
Nicotine Sulfate	1	3
Niter Cake	1	1
Nitric Acid, Red Fuming	4	2
Nitric Acid, White Fuming	X	X
Nitric Acid (0 - 50%)	2	1
Nitric Acid (50 - 100%)	4	3
Nitric Acid 3 Molar to 158°F	2	3
Nitric Acid Concentrated Room Temp.	4	2
Nitric Acid Concentrated to 158°F	4	4
Nitroaniline	1	3

1 - Satisfactory

2 - Fair

3 - Doubtful

4 - Unsatisfactory

x - Insufficient Data

ETHYLENE PROPYLENE (EPDM) & FLUOROCARBON (FKM)

CHEMICAL RESISTANCE DATA

Chemical Substance	EPDM Rating	FKM Rating
Nitrobenzene	1	2
Nitrobenzoic Acid	1	3
Nitrocellulose	1	3
Nitrochlorobenzene	1	3
Nitrochloroform	1	3
Nitrodiethylaniline	1	3
Nitrodiphenyl Ether	X	X
Nitroethane	2	4
Nitrofluorobenzene	1	3
Nitrogen	1	1
Nitrogen Oxides	1	3
Nitrogen Tetroxide (N ₂ O ₄)	4	4
Nitrogen Trifluoride	X	X
Nitroglycerine	1	3
Nitroglycerol	1	3
Nitroisopropylbenzene	1	3
Nitromethane	2	4
Nitrophenol	1	3
Nitropropane	2	4
Nitrosyl Chloride	X	X
Nitrosylsulfuric Acid	X	X
Nitrothiophene	1	3
Nitrotoluene	1	3
Nitrous Acid	1	3
Nitrous Oxide	1	1
Nonane	4	1
Noryl GE Phenolic	1	X
Nyvac FR200 Mobil	1	1
O		
Octachloro Toluene	4	1
Octadecane	4	1
Octanal (n-Octanaldehyde)	4	1
Octane or n-Octane	4	1
Octyl Acetate	1	3
Octyl Alcohol	3	1
Octyl Chloride	4	1
Octyl Phthalate	X	1
Olefins	X	1

Chemical Substance	EPDM Rating	FKM Rating
Oleic Acid	4	2
Oleum (Fuming Sulfuric Acid)	4	1
Oleum Spirits	4	1
Oleyl Alcohol	X	1
Olive Oil	2	1
Oronite 8200	4	1
Oronite 8515	4	1
Ortho-Chloro Ethyl Benzene	4	1
Ortho-Chloroaniline	1	3
Ortho-Chlorophenol	1	3
Ortho-Cresol	1	3
Ortho-Dichlorobenzene	4	1
Ortho-Nitrotoluene	1	3
Orthophos Acid	X	X
OS 45 Type III (OS45)	4	1
OS 45 Type IV (OS45-1)	4	1
OS 70	4	1
Oxalic Acid	1	1
Oxygen, 200°-300°F (Evalute for specific applications)	4	2
Oxygen, 300°-400°F (Evalute for specific applications)	4	2
Oxygen, Cold (Evalute for specific applications)	1	1
Oxygen, Liquid	4	4
Ozonated Deionized Water	1	3
Ozone	1	1
P		
Paint Thinner, Duco	4	2
Palmitic Acid	2	1
Para-Aminobenzoic Acid	1	3
Para-Bromobenzylphenyl Ether	X	X
Para-Chlorophenol	1	3
Paracymene	X	1
Para-Dichlorobenzene	4	1
Paraffins	4	1
Para-Formaldehyde	1	3
Paraldehyde	1	3
Par-al-Ketone	4	4
Para-Nitroaniline	1	3
Para-Nitrobenzoic Acid	1	3

1 - Satisfactory

2 - Fair

3 - Doubtful

4 - Unsatisfactory

x - Insufficient Data

ETHYLENE PROPYLENE (EPDM) & FLUOROCARBON (FKM)

CHEMICAL RESISTANCE DATA

Chemical Substance	EPDM Rating	FKM Rating
Para-Nitrophenol	1	3
Parathion	X	1
Para-Toluene Sulfonic Acid	1	3
Parker O Lube	4	1
Peanut Oil	3	1
Pectin (Liquor)	X	1
Pelagonic Acid	X	X
Penicillin (Liquid)	X	1
Pentachloroethane	X	1
Pentachlorophenol	1	3
Pentaerythritol	1	3
Pentaerythritol Tetranitrate	1	3
Pentafluoroethane (F-125)	X	X
Pentane or n-Pentane	4	1
Pentane, 2 Methyl	4	1
Pentane, 2-4 dimethyl	4	1
Pentane, 3-Methyl	4	1
Pentoxone	X	X
Pentyl Pentanoate	4	1
Peracetic Acid	1	3
Perchloric Acid - 2N	1	1
Perchloroethylene	4	1
Perfluoropropane	X	X
Perfluorotriethylamine	X	X
Permanganic Acid	X	X
Persulfuric Acid (Caro's Acid)	X	X
Petrolatum	4	1
Petrolatum Ether	4	1
Petroleum Oil, Above 250°F	4	2
Petroleum Oil, Below 250°F	4	1
Petroleum Oil, Crude	4	1
Phenol	4	1
Phenol, 70% / 30% H ₂ O	4	1
Phenol, 85% / 15% H ₂ O	4	1
Phenolic Sulfonate	1	3
Phenolsulfonic Acid	1	3
Phenylacetamide	X	1
Phenylacetate	1	3
Phenylacetic Acid	1	3
Phenylbenzene	4	1

Chemical Substance	EPDM Rating	FKM Rating
Phenylene Diamine	X	X
Phenylethyl Alcohol	X	1
Phenylethyl Ether	4	4
Phenylethyl Malonic Ester*	X	1
Phenylglycerine	1	3
Phenylhydrazine	2	1
Phenylhydrazine Hydrochloride	1	3
Phenylmercuric Acetate	1	3
Phorone	3	4
Phosgene	X	X
Phosphine	X	X
Phosphoric Acid 3 Molar to 158°F	1	1
Phosphoric Acid Concentrated Room Temp	1	1
Phosphoric Acid Concentrated to 158°F	1	1
Phosphoric Acid, 20%	X	X
Phosphoric Acid, 45%	X	X
Phosphorus (Molten)	X	X
Phosphorus Oxychloride	X	X
Phosphorus Trichloride	1	1
Phosphorus Trichloride Acid	1	1
Phthalic Acid	1	3
Phthalic Anhydride	1	3
Pickling Solution	3	2
Picric Acid (aq)	1	1
Picric Acid Molten	2	1
Pine Oil	4	1
Pine Tar	4	1
Pinene	4	1
Piperazine	X	1
Piperidine	4	1
Piranha (H ₂ SO ₄ :H ₂ O ₂)(70:30)	X	X
Plating Solution (Co,Cu,Au,In,Fe,Pb,Ni,Ag,Sn,Zn)	1	1
Plating Solutions Chrome	2	1
Plating Solutions Others	1	1
Pneumatic Service	1	1
Polyethylene Glycol	1	3
Polyglycerol	1	3
Polyglycol	1	3
Polyvinyl Acetate Emulsion	1	X
Potassium (Molten)	X	X

1 - Satisfactory

2 - Fair

3 - Doubtful

4 - Unsatisfactory

x - Insufficient Data

ETHYLENE PROPYLENE (EPDM) & FLUOROCARBON (FKM)

CHEMICAL RESISTANCE DATA

Chemical Substance	EPDM Rating	FKM Rating
Potassium Acetate	1	4
Potassium Acid Sulfate	1	3
Potassium Alum	1	3
Potassium Aluminum Sulfate	1	3
Potassium Antimonate	1	3
Potassium Bicarbonate	1	3
Potassium Bichromate	1	3
Potassium Bifluoride	1	3
Potassium Bisulfate	1	3
Potassium Bisulfite	1	3
Potassium Bitartrate	1	3
Potassium Bromide	1	3
Potassium Carbonate	1	3
Potassium Chlorate	1	3
Potassium Chloride	1	1
Potassium Chromates	1	3
Potassium Citrate	1	3
Potassium Cupro Cyanide	1	1
Potassium Cyanate	1	3
Potassium Cyanide	1	1
Potassium Dichromate	1	1
Potassium Diphosphate	1	3
Potassium Ferricyanide	1	3
Potassium Fluoride	1	3
Potassium Glucocyanate	1	3
Potassium Hydroxide 50%	1	4
Potassium Hypochlorite	1	3
Potassium Iodate	1	3
Potassium Iodide	1	3
Potassium Metabisulfate	1	3
Potassium Metachromate	1	3
Potassium Metasilicate	X	X
Potassium Monochromate	1	3
Potassium Nitrate	1	1
Potassium Nitrite	1	3
Potassium Oxalate	1	3
Potassium Perchlorate	1	3
Potassium Perfluoro Acetate	X	X
Potassium Permanganate	1	3
Potassium Peroxide	X	X

Chemical Substance	EPDM Rating	FKM Rating
Potassium Persulfate	1	3
Potassium Phosphate (Acid)	1	3
Potassium Phosphate (Alkaline)	1	3
Potassium Phosphate (Di/Tri Basic)	1	3
Potassium Pyrosulfate	1	3
Potassium Salts	1	1
Potassium Silicate	X	X
Potassium Sodium Tartrate	1	3
Potassium Stannate	1	3
Potassium Stearate	1	3
Potassium Sulfate	1	1
Potassium Sulfide	1	3
Potassium Sulfite	1	1
Potassium Tartrate	1	3
Potassium Thiocyanate	1	3
Potassium Thiosulfate	1	3
Potassium Triphosphate	1	3
Prestone Antifreeze	1	1
PRL-High Temp. Hydr. Oil	4	1
Producer Gas	4	1
Propane	4	1
Propionaldehyde	1	3
Propionic Acid	1	3
Propionitrile	4	1
Propyl Acetate	2	4
Propyl Acetone or n-Propyl Acetone	1	4
Propyl Alcohol	1	1
Propyl Nitrate	2	4
Propyl Propionate	1	3
Propylamine	1	3
Propylbenzene	X	1
Propylene	4	1
Propylene Chloride	X	1
Propylene Chlorohydrin	X	1
Propylene Dichloride	X	1
Propylene Glycol	1	3
Propylene Imine	X	1
Propylene Oxide	2	4
Pydraul 90e	1	1
Pydraul, 10E	1	4

1 - Satisfactory

2 - Fair

3 - Doubtful

4 - Unsatisfactory

x - Insufficient Data

ETHYLENE PROPYLENE (EPDM) & FLUOROCARBON (FKM)

CHEMICAL RESISTANCE DATA

Chemical Substance	EPDM Rating	FKM Rating
Pydraul, 115E	1	1
Pydraul, 230C, 312C, 540C, A200	4	1
Pydraul, 29ELT 30E, 50E, 65E	1	1
Pyranol Transformer Oil	4	1
Pyridine	2	1
Pyridine Oil	2	4
Pyridine Sulfate	1	3
Pyridine Sulfonic Acid	1	3
Pyrogallol (Pyrogalllic Acid)	4	1
Pyrogard 42, 43, 55	1	1
Pyrogard 53, Mobil Phosphate Ester	1	1
Pyrogard D, Mobil Water-in-Oil Emulsion	4	4
Pyroligneous Acid	2	4
Pyrolube	2	1
Pyrosulfuric Acid	1	3
Pyrosulfuryl Chloride	4	1
Pyrrole	4	4
Pyruvic Acid	1	3
Q		
Quinidine	4	1
Quinine	4	1
Quinine Bisulfate	1	3
Quinine Hydrochloride	1	3
Quinine Sulfate	1	3
Quinine Tartrate	1	3
Quinizarin	4	1
Quinoline	4	1
Quinone	4	1
R		
Radiation (Gamma, 1.0 E+07 Rads)	2	4
Raffinate	4	1
Rapeseed Oil	1	1
Red Line 100 Oil	4	1
Red Oil (MIL-H-5606)	4	1
Resorcinol	1	3
Rhodium	X	X

Chemical Substance	EPDM Rating	FKM Rating
Riboflavin	4	1
Ricinoleic Acid	4	1
RJ-1 (MIL-F-25558)	4	1
RJ-4 (MIL-F-82522)	4	1
Rosin	4	1
RP-1 (MIL-R-25576)	4	1
S		
Saccharin Solution	1	3
Sal Ammoniac	1	1
Salicylic Acid	1	1
Santo Safe 300	3	1
Sea (Salt) Water	1	1
Sebacic Acid	1	3
Selenic Acid	1	3
Selenous Acid	1	3
Sewage	1	1
SF 1154 GE Silicone Fluid	1	1
SF1147 GE Silicone Fluid	3	1
SF96 GE Silicone Fluid	1	1
Shell 3XF Mine Fluid (Fire resist hydr.)	4	1
Shell Alvania Grease #2	4	1
Shell Carnea 19 and 29	4	1
Shell Diala	4	1
Shell Iru 905	4	1
Shell Lo Hydrax 27 and 29	4	1
Shell Macome 72	4	1
Shell Tellus #32 (Petroleum Base)	4	1
Shell Tellus #68	4	1
Shell Tellus 27 (Petroleum Base)	4	1
Shell Tellus 33	4	1
Shell UMF (5% Aromatic)	4	1
Shellac	1	3
Silane	X	X
Silicate Esters	4	1
Silicon Fluoride	X	X
Silicon Tetrachloride	X	X
Silicon Tetrafluoride	X	X
Silicone Greases	1	1

1 - Satisfactory

2 - Fair

3 - Doubtful

4 - Unsatisfactory

x - Insufficient Data

ETHYLENE PROPYLENE (EPDM) & FLUOROCARBON (FKM)

CHEMICAL RESISTANCE DATA

Chemical Substance	EPDM Rating	FKM Rating
Silicone Oils	1	1
Silver Bromide	1	3
Silver Chloride	1	3
Silver Cyanide	1	3
Silver Nitrate	1	1
Silver Sulfate	1	3
Sinclair Opaline CX-EP Lube	4	1
Skelly, Solvent B, C, E	4	1
Skydrol 500 B4	1	4
Skydrol 7000	1	2
Skydrol LD-4	1	4
Soap Solutions	1	1
Socony Mobile Type A	4	1
Socony Vacuum AMV AC781 (Grease)	4	1
Socony Vacuum PD959B	4	1
Soda Ash	1	1
Sodium (Molten)	X	X
Sodium Acetate	1	4
Sodium Acid Bisulfate	1	3
Sodium Acid Fluoride	1	3
Sodium Acid Sulfate	1	3
Sodium Aluminate	1	3
Sodium Aluminate Sulfate	1	3
Sodium Anthraquinone Disulfate	1	3
Sodium Antimonate	1	3
Sodium Arsenate	1	3
Sodium Arsenite	1	3
Sodium Benzoate	1	3
Sodium Bicarbonate (Baking Soda)	1	1
Sodium Bichromate	1	3
Sodium Bifluoride	1	3
Sodium Bisulfate or Bisulfite	1	1
Sodium Bisulfide	1	3
Sodium Bitartrate	1	3
Sodium Borate	1	1
Sodium Bromate	1	3
Sodium Bromide	1	3
Sodium Carbonate (Soda Ash)	1	1
Sodium Chlorate	1	3
Sodium Chloride	1	1

Chemical Substance	EPDM Rating	FKM Rating
Sodium Chlorite	1	3
Sodium Chloroacetate	1	3
Sodium Chromate	1	3
Sodium Citrate	1	3
Sodium Cyanamide	1	3
Sodium Cyanate	1	3
Sodium Cyanide	1	X
Sodium Diacetate	1	3
Sodium Diphenyl Sulfonate	1	3
Sodium Diphosphate	1	3
Sodium Disilicate	1	3
Sodium Ethylate	1	3
Sodium Ferricyanide	1	3
Sodium Ferrocyanide	1	3
Sodium Fluoride	1	3
Sodium Fluorosilicate	1	3
Sodium Glutamate	1	3
Sodium Hydride	X	X
Sodium Hydrogen Sulfate	1	3
Sodium Hydrosulfide	1	3
Sodium Hydrosulfite	1	3
Sodium Hydroxide, 3 Molar	1	2
Sodium Hypochlorite	1	1
Sodium Hypophosphate	1	3
Sodium Hypophosphite	1	3
Sodium Hyposulfite	1	3
Sodium Iodide	1	3
Sodium Lactate	1	3
Sodium Metaphosphate	1	1
Sodium Metasilicate	1	3
Sodium Methylate	1	3
Sodium Monophosphate	1	3
Sodium Nitrate	1	X
Sodium Oleate	1	3
Sodium Orthosilicate	1	3
Sodium Oxalate	1	3
Sodium Perborate	1	1
Sodium Percarbonate	1	3
Sodium Perchlorate	1	3
Sodium Peroxide	1	1

1 - Satisfactory

2 - Fair

3 - Doubtful

4 - Unsatisfactory

x - Insufficient Data

ETHYLENE PROPYLENE (EPDM) & FLUOROCARBON (FKM)

CHEMICAL RESISTANCE DATA

Chemical Substance	EPDM Rating	FKM Rating
Sodium Persulfate	1	3
Sodium Phenolate	1	3
Sodium Phenoxide	1	3
Sodium Phosphate (Dibasic)	1	1
Sodium Phosphate (Mono)	1	1
Sodium Phosphate (Tribasic)	1	1
Sodium Plumbite	1	3
Sodium Pyrophosphate	1	3
Sodium Resinate	1	3
Sodium Salicylate	1	3
Sodium Salts	1	1
Sodium Sesquisilicate	X	X
Sodium Silicate	1	1
Sodium Silicofluoride	X	X
Sodium Stannate	1	3
Sodium Sulfate	1	1
Sodium Sulfide and Sulfite	1	1
Sodium Sulfoyanide	1	3
Sodium Tartrate	1	3
Sodium Tetraborate	1	3
Sodium Tetrakisphosphate	1	3
Sodium Tetrasulfide	1	3
Sodium Thioarsenate	1	3
Sodium Thiocyanate	1	3
Sodium Thiosulfate	1	1
Sodium Trichloroacetate	1	3
Sodium Triphosphate	1	3
Solvesso 100, 150	X	X
Sorbitol	1	3
Sour Crude Oil	4	1
Sour Natural Gas	4	1
Sovasol No. 1, 2, and 3	4	1
Sovasol No. 73 and 74	4	1
Soybean Oil	3	1
Spry	2	1
SR-10 Fuel	4	1
SR-6 Fuel	4	1
Standard Oil Mobilube GX90-EP Lube	4	1
Stannic Ammonium Chloride	1	3
Stannic Chloride	1	1

Chemical Substance	EPDM Rating	FKM Rating
Stannic Chloride, 50%	1	1
Stannic Tetrachloride	1	3
Stannous Bisulfate	1	3
Stannous Bromide	1	3
Stannous Chloride (15%)	1	1
Stannous Fluoride	1	3
Stannous Sulfate	1	3
Stauffer 7700	4	1
Steam Below 400°F	1	4
Steam, 400° - 500°F	3	4
Steam, Above 500°F	X	X
Stearic Acid	2	X
Stoddard Solvent	4	1
Strontium Acetate	1	3
Strontium Carbonate	1	3
Strontium Chloride	1	3
Strontium Hydroxide	1	3
Strontium Nitrate	1	3
Styrene (Monomer)	4	2
Succinic Acid	1	3
Sucrose Solutions	1	1
Sulfamic Acid	1	3
Sulfanilic Acid	1	3
Sulfanilic Chloride	4	1
Sulfanilimide	4	1
Sulfite Liquors	1	3
Sulfolane	1	2
Sulfonated Oils	4	1
Sulfonic Acid	1	3
Sulfonyl Chloride	1	3
Sulfur	1	1
Sulfur (Molten)	3	1
Sulfur Chloride	4	1
Sulfur Dioxide, Dry	1	4
Sulfur Dioxide, Liquidified under pressure	1	4
Sulfur Dioxide, Wet	1	4
Sulfur Hexafluoride	1	3
Sulfur Liquors	2	1
Sulfur Monochloride	4	1
Sulfur Tetrafluoride	X	X

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ETHYLENE PROPYLENE (EPDM) & FLUOROCARBON (FKM)

CHEMICAL RESISTANCE DATA

Chemical Substance	EPDM Rating	FKM Rating
Sulfur Trioxide Dry	2	1
Sulfuric Acid (20% Oleum)	1	3
Sulfuric Acid, 3 Molar to 158°F	1	1
Sulfuric Acid, Concentrated Room Temp	3	1
Sulfuric Acid, Concentrated to 158°F	4	1
Sulfuric Chlorohydrin (Chlorosulfonic Acid)	1	3
Sulfurous Acid	2	1
Sunoco #3661	4	1
Sunoco All purpose grease	4	1
Sunoco SAE 10	4	1
Sunsafe (Fire resist. hydr. fluid)	4	1
Super Shell Gas	4	1
Surfuryl Chloride	1	3
Swan Finch EP Lube	4	1
Swan Finch Hypoid-90	4	1
T		
Tallow	4	1
Tannic Acid (10%)	1	1
Tar, bituminous	4	1
Tartaric Acid	2	1
Tellone II	X	X
Terephthalic Acid	1	3
Terpineol	3	1
Terpinyl Acetate	4	1
Tertiary Amyl Methyl Ether (TAME)	X	X
Tertiary Butyl Catechol or p-tert-butylcatechol	2	1
Tertiary Butyl Mercaptan	4	1
Tetrabromoethane	4	1
Tetrabromomethane	4	1
Tetrabutyl Titanate	1	1
Tetrachloroethylene	4	1
Tetrachoroethane	4	1
Tetraethyl Lead	4	1
Tetraethyl Lead "Blend" V1164-75	4	1
Tetraethyl Orthosilicate (TEOS)	X	X
Tetrahydrofuran	2	4
Tetralin	4	1
Tetramethyl Ammonium Hydroxide	1	3

Chemical Substance	EPDM Rating	FKM Rating
Tetramethylcyclotetrasiloxane (TMCTS)	X	X
Tetramethyldihydropyridine	4	1
Tetramethyldihydropyridine	4	1
Tetraphosphoglucosate	1	3
Tetraphosphoric Acid	X	X
Texaco 3450 Gear Oil	4	1
Texaco Capella A and AA	4	1
Texaco Meropa 220 (No Lead)	4	1
Texaco Regal B	4	1
Texaco Uni-Temp Grease	4	1
Texamatic "A" 1581 Fluid	4	1
Texamatic "A" 3401 Fluid	4	1
Texamatic "A" 3525 Fluid	4	1
Texamatic "A" 3528 Fluid	4	1
Texamatic "A" Transmission Oil	4	1
Texas 1500 Oil	4	1
Therminol 44	4	1
Therminol 55	4	1
Therminol 66	X	X
Therminol FR	X	X
Therminol VP-1, 60, 65	4	1
Thio Acid Chloride	X	X
Thioamyl Alcohol	4	1
Thiodiacetic Acid	1	3
Thioethanol	1	3
Thioglycolic Acid	1	3
Thiokol TP-90B	1	1
Thiokol TP-95	1	1
Thionyl Chloride	4	1
Thiophene (Thiofuran)	4	1
Thiophosphoryl Chloride	1	3
Thiourea	1	3
Thorium Nitrate	1	3
Tidewater Multigear, 140 EP Lube	4	1
Tidewater Oil-Beedol	4	1
Tin Ammonium Chloride	1	3
Tin Chloride	4	1
Tin Tetrachloride	4	1
Titanic Acid	1	3
Titanium Dioxide	1	3

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ETHYLENE PROPYLENE (EPDM) & FLUOROCARBON (FKM)

CHEMICAL RESISTANCE DATA

Chemical Substance	EPDM Rating	FKM Rating
Titanium Sulfate	1	3
Titanium Tetrachloride	4	1
Toluene	4	1
Toluene Bisodium Sulfite	X	X
Toluene Diisocyanate (TDI)	2	4
Toluene Sulfonyl Chloride	4	1
Toluenesulfonic Acid	1	3
Toluidine	4	1
Toluol	1	3
Toluquinone	4	1
Tolylaldehyde	1	3
Transformer Oil	4	1
Transmission Fluid Type A	4	1
Triacetin	1	4
Triaryl Phosphate	1	1
Tribromomethylbenzene	4	1
Tributoxyethyl Phosphate	1	1
Tributyl Citrate	1	3
Tributyl Mercaptan	4	1
Tributyl Phosphate	1	4
Tributylamine	X	X
Trichloroacetic Acid	2	3
Trichloroacetyl Chloride	4	1
Trichlorobenzene	4	1
Trichloroethane	4	1
Trichloroethanolamine	1	3
Trichloroethylene	4	1
Trichloromethane	4	1
Trichloronitromethane (Chloropicrin)	1	3
Trichlorophenylsilane	X	X
Trichloropropane	4	1
Trichlorosilane	4	1
Tricresyl Phosphate	1	2
Triethanol Amine	2	4
Triethyl Phosphate	4	1
Triethylaluminum	X	X
Triethylborane	X	X
Triethylene Glycol	1	3
Triethylenetetramine	1	3
Trifluoroacetic Acid	1	3

Chemical Substance	EPDM Rating	FKM Rating
Trifluoroethane	4	1
Trifluoromethane	4	1
Trifluorovinylchloride	4	1
Triisopropylbenzylchloride	4	1
Trimethylamine	1	3
Trimethylamine (TMA)	1	3
Trimethylbenzene	4	1
Trimethylborate (TMB)	4	1
Trimethylpentane	4	1
Trinitrololuene (TNT)	4	2
Trioctyl Phosphate	1	2
Triphenylphosphite	1	3
Tripoly Phosphate	1	2
Tripotassium Phosphate	1	3
Trisodium Phosphate	1	3
Tritium	X	X
Tung Oil (China Wood Oil)	4	1
Tungsten Hexafluoride	X	X
Tungstic Acid	X	X
Turbine Oil	4	1
Turbine Oil #15 (MIL-L-7808A)	4	1
Turbo Oil #35	4	1
Turpentine	4	1
Type I Fuel (MIL-S-3136)(ASTM Ref. Fuel A)	4	1
Type II Fuel MIL-S-3136	4	1
Type III Fuel MIL-S-3136(ASTM Ref. Fuel B)	4	1
U		
Ucon Hydrolube J-4	1	1
Ucon Lubricant 50-HB-100	1	1
Ucon Lubricant 50-HB-260	1	1
Ucon Lubricant 50-HB-5100	1	1
Ucon Lubricant 50-HB55	1	1
Ucon Lubricant 50-HB-660	1	1
Ucon Lubricant LB-1145	1	1
Ucon Lubricant LB-135	1	1
Ucon Lubricant LB-285	1	1
Ucon Lubricant LB-300X	1	1
Ucon Lubricant LB-625	1	1

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x - Insufficient Data

ETHYLENE PROPYLENE (EPDM) & FLUOROCARBON (FKM)

CHEMICAL RESISTANCE DATA

Chemical Substance	EPDM Rating	FKM Rating
Ucon Lubricant LB-65	1	1
Ucon Oil 50-HB-280X	1	3
Ucon Oil Heat Transfer Fluid 500 (Polyalkylene Glycol)	1	1
Ucon Oil LB-385	1	1
Ucon Oil LB-400X	1	1
Undecylenic Acid	4	1
Undecylic Acid	4	1
Univis 40 (Hydr. Fluid)	4	1
Univolt #35 (Mineral Oil)	4	1
Unsymmetrical Dimethyl Hydrazine (UDMH)	1	4
UPDI(Ultrapur Deionized Water)	1	3
Uranium Hexachloride	X	1
Uranium Hexafluoride	X	X
Uranium Sulfate Factory	X	X
Uric Acid	1	3
V		
Valeraldehyde	1	3
Valeric Acid	1	3
Vanadium Oxide	4	1
Vanadium Pentoxide	4	1
Varnish	4	1
Vegetable Oil	3	1
Versilube F44, F55	1	1
Versilube F-50	1	1
Vinegar	2	3
Vinyl Acetate	1	3
Vinyl Benzene	4	1
Vinyl Benzoate	4	1
Vinyl Chloride	4	1
Vinyl Fluoride	4	1
Vinylidene Chloride	4	1
Vinylpyridine	4	1
Vitriol (White)	1	3
VV-H-910	1	1
W		
Wagner 21B Brake Fluid	1	4

Chemical Substance	EPDM Rating	FKM Rating
Water	1	2
Wemco C	4	1
Whiskey and Wines	1	1
White Liquor	1	1
White Oil	4	1
White Pine Oil	4	1
Wolmar Salt	1	1
Wood Alcohol	1	4
Wood Oil	4	1
X		
Xenon	1	1
Xylene	4	1
Xylidenes-Mixed-Aromatic Amines	1	4
Xylol	4	1
Z		
Zeolites	1	1
Zinc Acetate	1	4
Zinc Ammonium Chloride	1	3
Zinc Chloride	1	1
Zinc Chromate	1	3
Zinc Cyanide	1	3
Zinc Diethyldithiocarbamate	1	3
Zinc Dihydrogen Phosphate	1	3
Zinc Fluorosilicate	X	X
Zinc Hydrosulfite	1	3
Zinc Naphthenate	X	X
Zinc Nitrate	1	1
Zinc Oxide	1	1
Zinc Phenolsulfonate	1	3
Zinc Phosphate	1	1
Zinc Salts	1	1
Zinc Silicofluoride	X	X
Zinc Stearate	1	3
Zinc Sulfate	1	1
Zinc Sulfide	1	3
Zirconium Nitrate	1	1

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x - Insufficient Data

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x - Insufficient Data

[illegible]

[illegible]

[illegible]

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- Telecommunications and utility piping systems
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