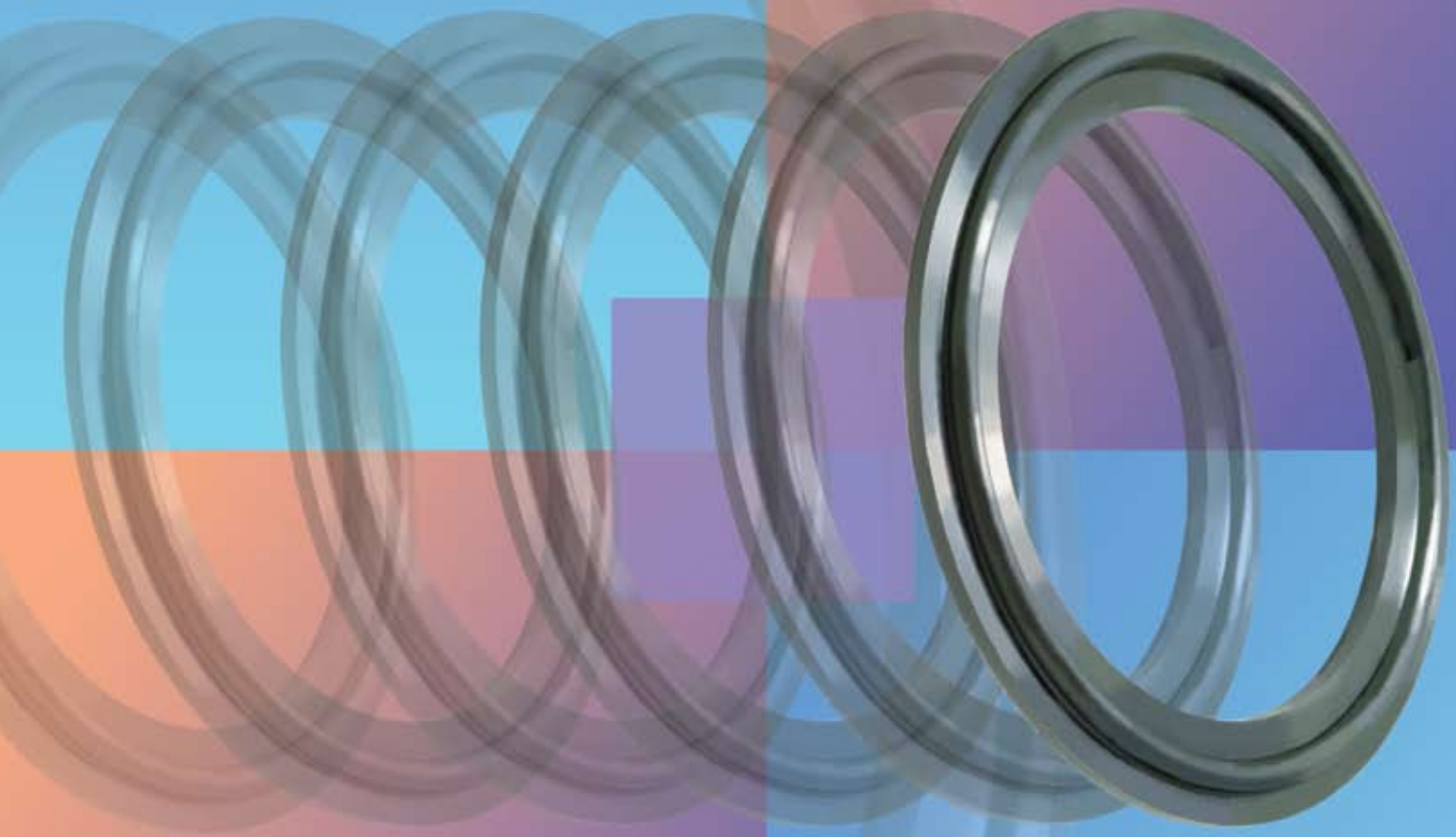
VITON® GF & VITON® ETP

TECHNICAL INFORMATION

CHEMICAL RATINGS



NEWMAN™
SANITARY GASKET COMPANY

DuPont Performance Elastomers

E.I. DuPont De Nemours and Company Elastomers Division

Viton® "GF" and Viton® "ETP"

Viton® "GF" and Viton® "ETP" are two new super chemical resistant Viton® compounds developed to solve critical sealing problems. Viton® "GF" and Viton® "ETP" are much more chemical resistant than the old standby Viton® "A", which has been the backbone of the Viton® compound line until now.

The Fluid Chemical Resistance Chart shows the superiority of Viton® "GF" and Viton® "ETP", which will replace Teflon® in most incidents, allowing processing operations the benefit of elastomer gaskets for the first time. Viton® "ETP" is slightly below Kalrez® in performance allowing additional chemical resistance where it is required further extending the range of elastomer gaskets for very critical sealing applications.

These new Viton® compounds have an extended life over Viton®"A" on gaskets and special parts. Viton® "GF" and Viton® "ETP" will solve sealing problems in critical processing areas. We have the solution to a single compound material for all sealing areas in your processing facility. Difficult sealing problems are in the past with Viton® "GF" and Viton® "ETP". One compound for gaskets, "O"-Rings and custom parts is yours at last.

As with any material, evaluation of any compound under end-use conditions prior to specification is essential.

Viton® fluoroelastomer

A Product of DuPont Performance Elastomers

Viton® made with Advanced Polymer Architecture (APA) provides FDA Compliance and More.

Newman Sanitary Gasket Company is a leading manufacturer of sanitary gaskets, o-rings and custom molded parts for the food and pharmaceutical processing industries. You will find Newman Sanitary Gasket company has an unsurpassed tradition of quality, performance, customer service, distribution and development. With a long history of quality manufactured components for the pharmaceutical processing industry Newman is proud to announce the availability of the new DuPont Performance Elastomer Viton® "GF" and "ETP" to its line of quality elastomers for the manufacturing of sanitary components.

Viton® "GF" and Viton® "ETP" are two new super chemical resistant Viton® compounds developed by DuPont Performance Elastomers to solve critical sealing problems. Viton® "GF" and Viton® "ETP" are much more chemical resistant than the old standby Viton® "A", which has been the backbone of the Viton® compound line until now.

The superiority of Viton® "GF", which will replace Teflon® in most instances, allowing processing operations the benefit of elastomer gaskets for the first time. Viton® "ETP" is slightly below Kalrez® in performance allowing additional chemical resistance where it is required further extending the range of elastomer gaskets for very critical sealing applications.

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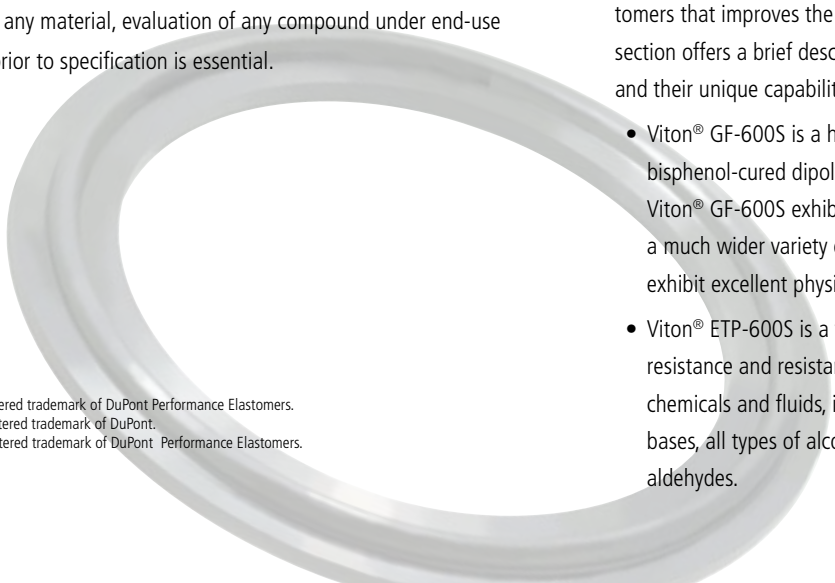


Improved Steam and Fluids Resistance Key in Food and Pharmaceutical Applications.

Bisphenol-cured types of Viton® or "steam-resistant fluoroelastomers" provide significant improvements in steam resistance, compared to the older, diamine-cured types of fluoroelastomers (FKM). Viton® A-401C, a bisphenol-cured type of Viton®, quickly became the standard in steam resistant pharmaceutical fluoroelastomer sealing applications when it was shown in 1996 to be compliant with FDA food contact regulation 21 CFR 177.2600, Rubber Goods Intended for Repeated Use. Despite its improved steam resistance, bisphenol-cured Viton® exhibited inadequate service in some sterilization processes, particularly those that involved the use of highly caustic chemicals.

As an alternative to steam-resistant fluoroelastomers, pharmaceutical and food manufacturers often use EPDM or silicone in cleaning applications that use caustic and steam. EPDM, while it is capable of providing excellent steam resistance, exhibits relatively poor resistance to a wide variety of cleaning fluids. Silicone, on the other hand, may provide good resistance to a wide variety of cleaning fluids but poor steam resistance. The combination of excellent steam resistance and fluids resistance has been demonstrated with the most recent Viton® speciality polymers.

Based on laboratory results, the latest development in Viton® fluoroelastomer technology, Advanced Polymer Architecture (APA), provides improved resistance to steam and some cleaning fluids used in food and pharmaceutical processes when compared to diamine- or bisphenol-cured dipolymer fluoroelastomers.

Viton® made with Advanced Polymer Architecture (APA) provides and attractive combination of the following:

- Resistance to a wide variety of food and pharmaceutical related cleaning fluids, including fluids that are highly caustic in nature.
- Resistance to steam.

As with any material, evaluation of any compound under end-use conditions prior to specification is essential.

Viton® made with APA Provides a New Level of Performance

Viton® made with APA is a proprietary development by DuPont Performance Elastomers that improves the performance of specialty fluoroelastomers. The following section offers a brief description of Viton® polymers that provide FDA compliance and their unique capabilities.

- Viton® GF-600S is a high-fluorine, peroxide-cure type of Viton®. Compared to bisphenol-cured dipolymer FKM, such as Viton® A-401C, vulcanizates based on Viton® GF-600S exhibit excellent steam resistance and superior resistance to a much wider variety of cleaning fluids. Vulcanizates based on Viton® GF-600S exhibit excellent physical properties, including resistance to compression set.
- Viton® ETP-600S is a very unique copolymer that exhibits excellent steam resistance and resistance to attack by an exceptionally broad variety of chemicals and fluids, including aliphatic and aromatic hydrocarbons, acids, bases, all types of alcohols and even low molecular weight ketones, esters, and aldehydes.

Viton® made with APA Provides Improved Steam Resistance

As mentioned earlier, bisphenol-cured Viton® has been the standard for applications where steam resistance is critical. As shown in **Figure 1**, APA polymers provide even better resistance to property loss in steam.

As these test results demonstrate, Viton® polymers based on APA technology, show excellent retention of tensile properties in steam aging, whereas the strength of the vulcanizate made with silicone drops off to essentially zero in less than 400 hours.

Figure 1
Viton® made with APA vs Vition® A-401C
% of Original Tensile Strength* in 80 psi Steam (156 C) after 672 hours

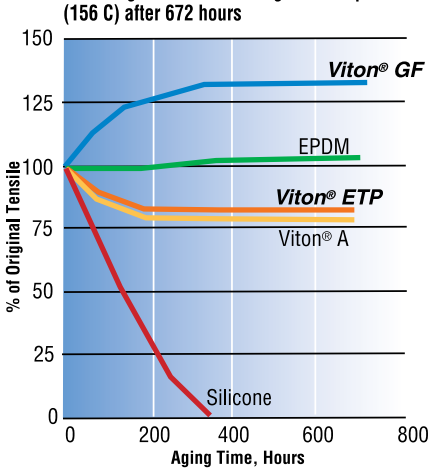
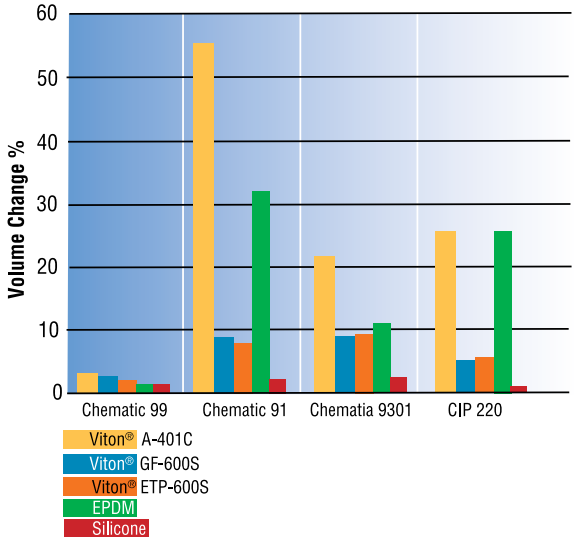


Figure 2
Viton® made with APA vs Vition® A-401C and Other Elastomers
% Volume Change* Various Cleaning Fluids after 1008 Hours at 70 C



Viton® made with APA Demonstrates Excellent Fluids Resistance

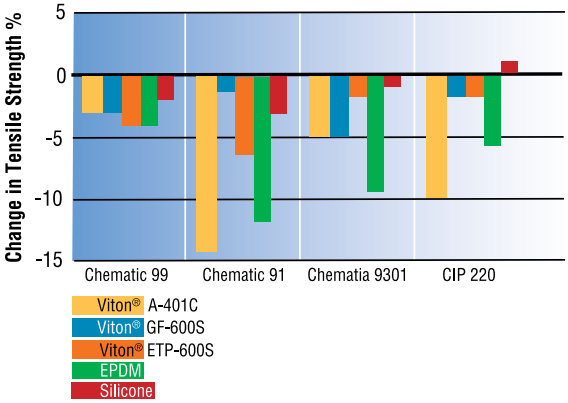
In addition to maintaining its tensile properties in steam, APA polymers also demonstrate improved resistance to volume change in cleaning fluids, such as Chematic® 91, Chematic® 9301, and CIP 220® compared to bisphenol-cured dipolymer FKM, and EPDM **(Figure2.)**

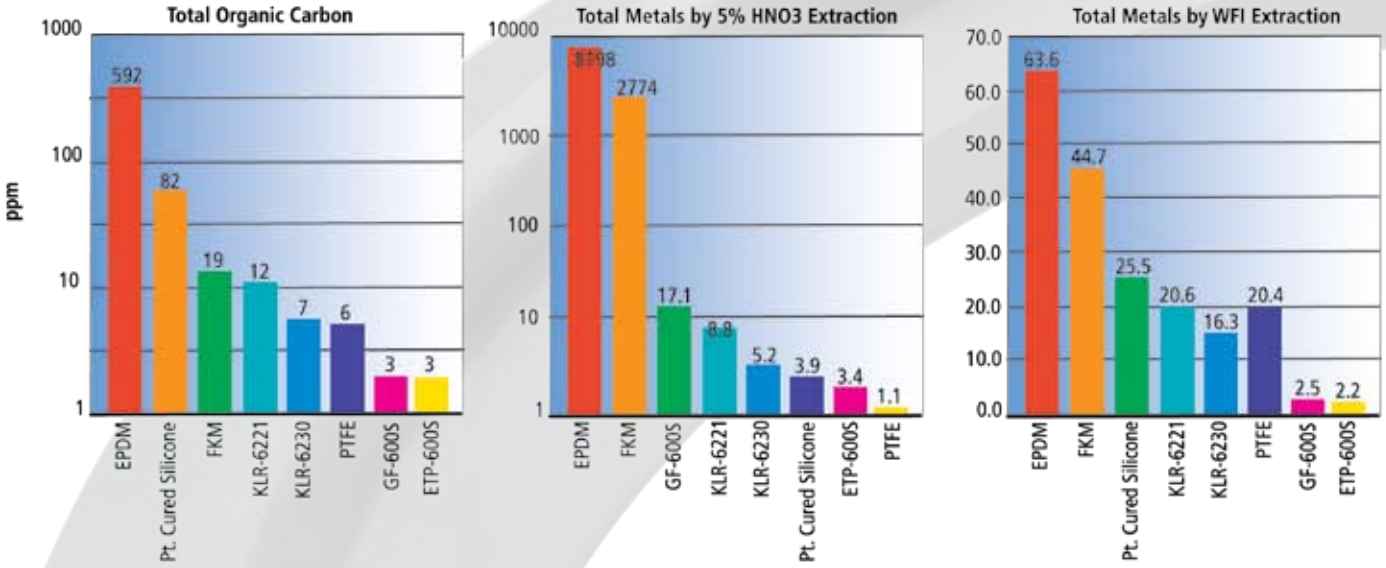
As indicated in **Figure 2**, vulcanizates based on Viton® GF-600S and Viton® ETP-600S exhibit lower volume swell in a wider variety of cleaning fluids than any of the other polymers tested except silicone. The combination of steam resistance and resistance to a wide variety of cleaning solutions make the APA polymers attractive candidates for food and pharmaceutical sealing applications compared to silicone and EPDM.

Volume change in fluids is an indication of the ability of a vulcanizate to maintain sealing performance in a given fluid. If a vulcanizate exhibits excessive swelling, it also tends to exhibit significant losses in hardness and strength which may result in a reduction in the ability of a gasket or O-ring made from the vulcanizate to maintain a seal under pressure.

Figure 3 shows that, after aging in various commercial cleaning fluids, compounds based on Viton® GF-600S and Viton® ETP-600S show virtually no change in tensile strength, whereas EPDM demonstrates a larger loss in tensile strength after the 1008 hour aging prior in Chematic 91 and CIP 220.

Figure 3
Viton® made with APA vs Vition® A-401C and Other Elastomers
Change in Tensile Strength* in Various Cleaning Fluids after 1008 Hours at 70 C





Summary

Sterilization processes used by food and pharmaceutical manufacturers frequently use steam, caustic chemicals or a combination of both. These aggressive conditions are demanding on sealing materials that are often used in these environments, such as EPDM, silicone or fluoroelastomers. EPDM, while it is capable of providing excellent steam resistance, exhibits relatively poor resistance to some commonly used cleaning fluids. Silicone may provide good resistance to a wide variety of cleaning fluids but poor steam resistance. The most recent Viton® specialty polymers made from APA provide an excellent combination of steam resistance and resistance to cleaning fluids encountered in pharmaceutical and food processes.

Based on laboratory results Viton® specialty polymers made with APA, especially GF-600S and ETP-600S provide:

- Improved steam and caustic cleaning fluid resistance vs bisphenol or diamine cured FKM.
- Improved steam resistance compared to silicone.
- Improved caustic cleaning fluid resistance vs EPDM

The balance of steam and fluid resistance make APA polymers attractive candidates for sealing in food and pharmaceutical processes in comparison to other alternatives.

DuPont Performance Elastomers

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Caution: Do not use in medical applications involving permanent implantation in the human body. For other medical applications, discuss with your DuPont Performance Elastomers customer service representative and read Medical Caution Statement H-69237.

A = Acceptable
C = Caution - Depends on Condition
NS = Not Suitable

VITON®	A	GF	ETP
Acetaldehyde	NS	C	C
Acetamide	C	A	A
Acetic Acid, 37%	NS	C	A
Acetic Acid, Glacial	NS	NS	C
Acetic Anhydride	NS	NS	C
Acetone	NS	NS	A
Acetonitrile	NS	NS	C
Acetophenone	NS	NS	C
Acetyl Chloride	A	A	A
Acrolein (acrylaldehyde)	NS	NS	C
Acrylonitrile	NS	NS	C
Adipic Acid Solution	C	A	A
Alcohol Buttoms	NS	A	A
Alcohol NOS (Not otherwise specified)	NS	A	A
Alcohol Beverage	A	A	A
Alkyl Benzene	C	A	A
Alkyl Phenol Ethoxylate	NS	C	C
Alkylamine	NS	NS	A
Alkylbenzene, C10-C16	C	A	-
Allyl Alcohol	NS	C	-
Alum	A	A	A
Allumina Trihydrate Slurry Aluminum Hydroxide	A	A	A
Aluminum Chloride	A	A	A
Aluminum Chloride Solution	C	A	A
Aluminum Fluoride Solution	A	A	A
Aluminum Sulfate (Alum)	A	A	A
Aluminum Sulfate (Food Grade)	A	A	A
Amines (Mixed)	NS	NS	A
Ammonia Gas, <150 F	NS	NS	C
Ammonia, Liquid, Anhydrous	NS	NS	C
Ammonia-Aqua (Ammonium Hydroxide)	NS	C	A
Ammonium Bisulfide	A	A	A
Ammonium Carbonate Solution	A	A	A
Ammonium Hydroxide	NS	C	A
Ammonium Nitrate	A	A	A
Ammonium Nitrate Solution	A	A	A
Ammonium Phosphate Solution	A	A	A
Ammonium Sulfamate Solution	NS	NS	C
Ammonium Sulfate Solution	C	A	A
Ammonium Sulfide	C	A	A
Ammonium Sulfide Solution	C	A	A
Ammonium Sulfite Solution	A	A	A

VITON®	A	GF	ETP
Ammonium Thiocyanate	A	A	A
Ammonium Thiosufate	A	A	A
Ammonium Thiosulfate Solution	A	A	A
Amyl Acetate (Banana Oil; Pear Oil)	NS	NS	A
Amyl Chloride (1-Chloropentane)	A	A	A
Amyl Phenol	A	A	A
Aniline (Aminobenzene)	C	A	A
Animal Feed Solution	A	A	A
Animal Oils (Tallow)	C	A	-
Anthraquinone	NS	C	A
Anitmony Pentachloride (Anitomy Perchloride)	C	A	A
Argon	A	A	A
Arochlor (Polychlorinated Biphenyl; PCB)	A	A	A
Aromatic Concentrate	C	A	A
Arsenic Acid (Orthoarsenic Acid)	A	A	A
Asphalt	A	A	A
Aviation Gasoline 100LL	C	A	A
Barium Chlorate Solution	A	A	A
Benzaldehyde (Benzoic Aldehyde)	NS	C	C
Benzene	C	A	A
Benezenesulfonic Acid (Phenylsulfonic Acid)	A	A	A
Benzoic Acid	A	A	A
Benzophenone (Cyasorb)	A	A	A
Benzoyl Chloride	C	A	A
Bnezyl Alcohol (Alpha-Hydroxytoluene)	A	A	A
Benzyl Chloride (Alpha-Chlorotoluene)	A	A	A
Biphenyl (Diphenyl)	A	A	A
Boric Acid Solution	A	A	A
Brake Fluid (Hydraulie Fluid Petroleum-Based)	C	C	A
Brine	C	A	A
Bromine	C	A	A
Bromochloromethane (Halon 1011)	NS	C	C
Bromochloropropane (Trimethlyene Chlorobromide)	NS	C	C
Bunker C Oil	A	A	A
Butadiene (1,3 Butadiene)	NS	A	A
Butane	A	A	A
Butanediol	A	A	A
Butanol	A	A	A

VITON®	A	GF	ETP
Butene (Butylene)	A	A	A
Butyl Acetate (n-; sec-, tert-Butyl Acetate)	NS	NS	C
Butyl Acrylate (n-Butyl Acrylate)	NS	NS	C
Butyle Alcohol (1-Butanol)	A	A	A
Butyl Amine	NS	NS	C
Butyl Benzyl Phthalate (BBP)	NS	A	A
Butyl Carbitol (Diethylene Glycol Monobutyl Ether)	C	A	A
Butyl Cellosolve (Ethylene Glycol Monobutyl Ether)	NS	C	A
Butyl Chloride (Chlorobutane)	A	A	A
Butyl Ether (n-Dibutyl Ether)	NS	NS	C
Butyl Mercaptan (Butanethiol)	NS	C	C
Butyl Methacrylate	NS	NS	A
Butyl Oleate	A	A	A
Butyl Phenol (o-sec-Butyphenol)	A	A	A
Carbon Black Oil	A	A	A
Carbon Black	A	A	A
Carbon Dioxide	A	A	A
Carbon Disulfide (Carbon Bisulfide)	C	A	A
Carbon Tetrachloride (Tetrachloromethane)	A	A	A
Carbowax Polyethylene Glycol 400	A	A	A
Carboxybenzene (Benzoic Acid Solution)	A	A	A
Castor Oil	A	A	A
Caustic Soda	NS	C	C
50% Caustic	NS	C	C
Cayenne Pepper Mash	A	A	A
Cellosolve Acetate	NS	NS	C
Cetyl Alcohol (1-Hexadecanol)	A	A	A
CIP 150 (20% @70° C)	A	A	A
CIP 220 (20% @70° C)	NS	A	A
Chematic 91 (20% @70° C)	NS	A	A
Chematic 99 (20% @70° C)	A	A	A
Chematic 9301 (20% @70° C)	C	A	A
Chloral (Trichloracetaldehyde)	NS	NS	C
Chlordane	A	A	A
Chlorinated Paraffin	A	A	A
Chlorinated Phosphate Ester	-	-	-
Chlorine	A	A	A
Chloroacetic Acid	NS	NS	A
Chlorobenzaldehyde	NS	NS	C

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VITON®	A	GF	ETP
Chlorobenzene (Monochlorobenzene)	C	A	A
Chlorodifluoroethane	NS	NS	A
Chlorodifluoromethane	NS	NS	C
Chloroform (Trichloromethane)	C	A	A
Chloronaphthalene	A	A	A
Chloropicrin (Trichloronitromethane)	A	A	A
Chlorosulfonic Acid (Sulfuric Chlorohydrin)	NS	NS	A
Chlorotoluene	A	A	A
Chocolate	A	A	A
Chrome Plating Solutions	A	A	A
Chromic Acid	A	A	A
Citric Acid	A	A	A
Clay Slurry	C	A	A
Coal Tar	A	A	A
Coal Tar Light Oil, Ashland	A	A	A
Coal Tar Oil	C	A	A
Coal Tar Pitch	C	A	A
Coconut Fatty Alcohol	A	A	A
Coconut Oil	A	A	A
Cod Liver Oil	A	A	A
Copper (II) Sulphate Solution	C	A	A
Copper Chloride Solution	C	A	A
Corn Gluten Meal	A	A	A
Corn Oil	A	A	A
Corn Syrup	A	A	A
Cotton Seed Oil	A	A	A
Creosote	A	A	A
Meta-Cresol	A	A	A
Para-Cresol	A	A	A
Cresol (Cresylic Acid)	A	A	A
Meta-Cresylic Acid	A	A	A
Cresylic Acid	A	A	A
Crotonaldehyde (2-Butenal)	NS	C	A
Crude Oil	A	A	A
Crude Vegetable Oil (See Vegetable Oil)	A	A	A
Cumene (Isopropylbenzene)	A	A	A
Cyclohexane (Hexamethylene)	A	A	A
Cyclohexanol (Hexahydrophenol)	A	A	A
Cyclohexanone (Pimelic Ketone; ketohexamethylene)	NS	NS	A
Cyclohexene (1,2,3,4-etrahydrobenzene)	NS	C	C

VITON®	A	GF	ETP
Cyclohexylamine (Hexahydroaniline)	NS	NS	C
Cyclopentadiene	NS	C	C
Cyclopentane (Pentamethylene)	A	A	A
Decanol (Decyl Alcohol)	C	A	A
Detergents	A	A	C
Dextrose	A	A	A
Diacetone Alcohol	NS	C	C
Diamylamine (Di-n-Pentylamine)	NS	NS	C
Diazinon	C	A	A
Dibenzyl Sebacate	C	A	A
Dibutyl Phthalate	NS	A	A
Dibutyl Sebacate	NS	A	A
Dibutylamine	NS	NS	A
Dicapryl Phthalate (DCP)	NS	A	A
Dichloroaniline	NS	C	A
Ortho-Dichlorobenzene	A	A	A
Para-Dichlorobenzene	A	A	A
Dichlorobenzene (Para-or-Ortho Dichlorobenzene)	A	A	A
Dichlorobenzene Mix	A	A	A
Dichlorobutane (Tetramethylene Dichloride; DCB)	A	A	A
Dichlorodifluoromethane (R-12)	C	C	-
Dichloroacetylene	C	A	A
Dichloromonofluoromethane (R-21)	NS	NS	NS
Dichlorophenol	C	A	A
Dichloropropane	A	A	A
Dichlorotetrafluoroethane (R-114)	C	C	A
Dicyclohexylamine	NS	C	A
Diesel Fuel (Fuel Oil #2)	A	A	A
Diethanolamine	NS	C	C
Diethyl Carbonate	A	A	A
Diethyl Phthalate (DEP)	C	A	A
Diethylamine	NS	NS	C
Diethylbenzene	C	A	A
Diethylene Glycol	A	A	A
Diethylene Glycol Diethyl Ether	NS	C	C
Diethylene Glycol Monoethyl Ethel	NS	C	C
Diethylene Glycol Monoethyl Ether Acetate	NS	NS	C
Diethylene Glycol Monomethyl Ether	NS	C	C

VITON®	A	GF	ETP
Diethylene Glycol Monopropyl Ether	NS	C	C
Diethylenetriamine	NS	NS	C
Diethylketone (Metacetone, Propione)	NS	C	C
Difluoroethane (Ethylidene Fluoride)	NS	NS	C
Diisobutyl Ketone	NS	NS	C
Diisobutyl Phthalate	C	A	A
Diisobutylene	A	A	A
Diisodecyl Adipate	C	A	A
Diisodecyl Phthalate	C	A	A
Diisooctyl Azelate (DIOZ)	C	A	A
Diisooctyl Phthalate	C	A	A
Diisopropanolamine	-	-	-
Diisopropyl Ether	A	A	A
Diisopropylamine	-	-	-
n,n-Dimethyl Acetamide (DMAC)	NS	NS	C
n,n-Dimethyl Aniline	NS	NS	C
Dimethyl Ether (Methyl Ether)	NS	NS	C
Dimethyl Formamide	NS	NS	A
Dimryhyl Phthalate	C	A	A
Dimethyl Sebacate	C	A	A
Dimethyl Sulfate (Methyl Sulvate)	NS	C	C
Dimethyl Sulfoxide (DMSO)	NS	C	C
Dimethyl Terephthalate	C	A	A
Dimethylamine, Anhydrous (DMA)	NS	NS	A
Dimethylamine, Aqueous (DMA Solution)	NS	NS	A
Dinitrotoluene (2,4-;3,4-;3,5-D)	NS	C	C
Dioctyl Adipate (Di{2-Ethylehexy}	C	A	A
Dioctyl Azelate (Di{2-Ethylehexy}	C	A	A
Dioctyl Sebacate	A	A	A
Dioxane (Diethylene Ether)	NS	NS	A
Diphenyl Ether	A	A	A
Diphenyl Oxide	A	A	A
Diphenylamine (n-Phenylaniline)	NS	C	A
Divinylbenzene (Vinylstyrene)	C	A	A
Dodecanol (Lauryl Alcohol)	C	A	A
Dodecylbenzene	A	A	A
Dodecylphenol	C	A	A
Dowtherm-A	A	A	A
Dowtherm-E	A	A	A
Drilling Mud	C	C	C

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VITON®	A	GF	ETP
Emulsifiers	C	C	C
Epichlorohydrin (Chloropropylene)	NS	C	C
Ethane	A	A	A
Ethanol	C	A	A
Ethanolamine (Monoethanolamine)	NS	NS	C
Ethyl Acetate	NS	NS	C
Ethyl Acetoacetate	NS	NS	C
Ethyl Acrylate	NS	NS	C
Ethyl Alcohol (Ethanol, Grain Alcohol)	C	A	A
Ethyl Amyl Ketone (EAK, 5-Methyl-3-Heppanone)	NS	C	C
Ethyll Bromide (Bromoethane)	A	A	A
Ethyl Butanol (2-Ethylbutyl Alcohol)	C	A	A
Ethyl Butyl Ketone (3-Heptanone)	NS	C	C
Ethyl Chloride	A	A	A
Ethyl Ether	NS	NS	C
Ethyl Formate	A	A	A
Ethyl Hexanol	A	A	A
Ethyl Isopropyl Ketone	NS	C	C
Ethyl Mercaptan (Ethanethiol)	C	A	A
Ethyl Methyl Ether	NS	C	C
Ethyl Oxalate	A	A	A
Ethyl Silicate (Tetraethyl Orthosilicate)	A	A	A
Ethylamine, Anhydrous (Monoethtlamine)	NS	NS	C
Ethylamine, Aqueous (Aqueous Monoethylamine)	NS	NS	C
Ethylbenzene (Phenylethane)	A	A	A
Ethylene	C	A	A
Ethylene Chlorohydrin (2-Chloroethyl Alcohol)	A	A	A
Ethylene Dibromide (EDB, 1,2-Dibromoethane)	C	A	A
Ethylene Dichloride (1,2-Ethylene Dichloride)	A	A	A
Ethylene Glycol (1,2-Ethanediol)	A	A	A
Ethylene GlycolMonobutyl Ether	NS	NS	C
Ethylene Oxide (Oxirane)	NS	NS	NS
Ethylene Vinyl Acetate Copolymer	-	-	-
Ethylenediamine (1,2-Diaminoethane)	NS	NS	NS
2-Ethylhexanol	A	A	A

VITON®	A	GF	ETP
Fatty Acid	A	A	A
Fatty Acid Esters of Coconut Oil	A	A	A
Fatty Alcohol	A	A	A
Fatty Alcohol, C10-12	A	A	A
Fatty Alcohol, C12-14	A	A	A
Fatty Alcohol, C14-C18	A	A	A
Fatty Amine	NS	C	C
Ferric Chloride	A	A	A
Ferric Chloride Solution	A	A	A
Ferrous Chloride Solution	A	A	A
Ferrous Sulfate Solution	A	A	A
Fertilizer Ammoniation Solution	C	C	C
Fish Oil	A	A	A
Fish Soluable	A	A	A
Formaldehyde	NS	NS	C
Formaldehyde Solution	NS	NS	C
Formic Acid	NS	NS	C
Freon	C	C	C
Freon 11 (Trichlorofluoromethan)	C	C	C
Freon 114 (Dichlorotetrafluoroet)	C	C	C
Freon 12 (Dichlrodifluorometha)	C	C	-
Freon 141-B (Dichlorofluoroetha)	C	C	-
Freon 22 (Chlorodifluoromethan)	C	C	-
Fuel Oil	A	A	A
Fuel Oil (No.3,4,5,6,& heavy)	C	C	C
Fumaric Acid Solution	A	A	A
Furfural	NS	NS	C
Furfuryl Alcohol	C	A	A
Gasoline	C	A	A
Gasoline Fuel Additives	C	A	A
Gluconic Acid Solution	C	C	A
Glucose	A	A	A
Glue	A	A	A
Glycerin	A	A	A
Glycol	A	A	A
Glycol Ethers	NS	C	C
Helium	A	A	A
Heptane	A	A	A
Heptanoic Acid	A	A	A
3-Heptanol	A	A	A
Hexanol	A	A	A
Hexene (n-Hexene)	A	A	A

VITON®	A	GF	ETP
Hexyl Alcohol	A	A	A
Hexylene Glycol	A	A	A
Hydrazine	NS	NS	C
Hydrazine (Aqueous Solution)	NS	NS	C
Hydrobromic Acid	A	A	A
Hydrocyanic Acid (Hydrogen Cyanide)	A	A	A
Hydrofluoric Acid, Aqueous	NS	NS	C
Hydrofluoric Acid, Anhydrous	NS	NS	C
Hydrofluoric Acid, Anhydrous (Hydrogen Fluoride)	NS	NS	C
Hydrofluosilicis Acid Solution	A	A	A
Hydrofluosilicis Acid	A	A	A
Hydrogen	A	A	A
Hydrogen Peroxide Solution	A	A	A
Hydrogen Chloride	C	A	A
Hydrogen Chloride (HCI-Anhydrous)	C	A	A
Hydrogen Fluoride Anhydrous	NS	NS	C
Hydrogen Peroxide	A	A	A
Hydrogen Sulfide	NS	C	C
Ink	A	A	A
Isoamyl Acetate	NS	NS	C
Isoamyl Alcohol	A	A	A
Isobutane (Butane)	C	C	C
Isobutanol	A	A	A
Isobutene (Isobutylene)	A	A	A
Isobutyl Acetate	NS	NS	C
Isobutyl Acrylate	NS	NS	C
Isobutyl Alcohol	A	A	A
Isobutylamine	NS	C	C
Isobutyl Isobutyrate	C	C	C
Isobutylene (Isobutene, 2-Methylpropene)	A	A	A
Isobutyraldehyde	NS	C	C
Isobutyric Acid	NS	C	C
Isodecanol	C	A	A
Isodecanol Mixed Isomers	C	A	A
Isopentane	A	A	A
Isophorone	NS	NS	C
Isopropanol	A	A	A
Isopropanolamine	NS	NS	C
Isopropyl Acetate	NS	NS	C
Isopropyl Amine (Isopropanol Amine)	NS	NS	C

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VITON®	A	GF	ETP
Isopropyl Cellosolve	NS	C	C
Isopropyl Ether	NS	C	C
Jet Fuel	A	A	A
Lacquers, Nitrocellulose	NS	NS	A
Lactic Acid	A	A	A
Latex	C	A	A
Lauric Acid	A	A	A
Light Fuel Oil	C	A	A
Limestone Slurry	A	A	A
Linseed Oil	A	A	A
Liquefied Petroleum Gas (LPG)	C	A	A
Lube Oil	A	A	A
Magnesium Chloride	A	A	A
Magnesium Hydroxide (Milk of Mangesia)	A	A	A
Maleic Acid	A	A	A
Maleic Anhydride	NS	C	C
Manganese Sulfate Solution	A	A	A
Mesityl Oxide	NS	NS	C
Methane	A	A	A
Methanol	NS	A	A
Methyl Acetate	NS	NS	C
Methyl Aceto Acetate	NS	NS	C
Methyl Acetone	NS	NS	C
Methyl Acrylate	NS	NS	C
Methyl Alcohol (Methanol)	NS	A	A
Methyl Amyl Acetate	NS	NS	C
Methyl Amyl Alcohol (Methyl Isobutyl Carbinol)	NS	C	A
Methyl Amyl Ketone	NS	C	C
Methyl Bromide (Bromomethane)	A	A	A
Methyl Butyl Ketone	NS	NS	C
Methyl Cellosolve (Ethylene Gylcol Monomethyl Ether)	NS	NS	A
Methyl Chloride (Chloromethane)	C	A	A
Methyl Chloroformate	C	A	A
Methyl Ethyl Ketone	NS	NS	C
Methyl Isoamyl Ketone	NS	NS	C
Methyl Isobutyl ketone (MIBK)	NS	NS	C
Methyl Isocyanate	NS	C	C
Methyl Isopropenyl Ketone	NS	C	C
Methyl Mercaptan (Methanethiol)	C	A	A
Methyl Methacrylate	NS	NS	C
Methyl Methacrylate Monomer	NS	NS	C

VITON®	A	GF	ETP
Methyl Naphthyl Ketone	NS	C	C
Methyl Oleate	A	A	A
Methyl Parathion Insecticide	C	C	C
Methyl Tert. Butyl Ether (MTBE)	NS	NS	C
Methylamine, Anhydrous (Monomethylamine)	NS	NS	C
Methylamine, Aqueous	NS	NS	C
Methylaniline	C	A	A
Methylene Bromide	C	A	A
Methylene Chloride	C	A	A
Mineral Oil	A	A	A
Mineral Spirit	C	A	A
Mixed C4 Hydrocarbons	C	A	A
Molasses	A	A	A
Molten Sulfur	C	A	A
Monochlorodifuoroethane	NS	NS	NS
Monochlorodifluoromethane (R-22)	NS	NS	NS
Monochlorothtrafluoroethane	C	C	C
Monoethanolamine	NS	NS	C
Monomethyl Ether (Methyl Carbitol)	NS	NS	C
Monomethylamine	NS	NS	C
Myristic Acid	A	A	A
N-Methyltaurine	-	-	-
Naphtha	A	A	A
Naphtha, Coal-Tar	C	A	A
Naphtha, Petroleum	C	A	A
Naphthalene	A	A	A
Naphthenic Acid	A	A	A
Natural Gas Liquids	A	A	A
Neatsfoot Oil	A	A	A
Neodecanoic Acid	C	A	A
Neohexane	A	A	A
Nitric Acid	C	C	C
Nitrobenzene	C	A	A
Nitroethane	NS	NS	C
Nitrogen	A	A	A
Nitrogen Fertilizer Solution (<40 psia)	C	C	C
Nitrogen Dioxide	NS	NS	C
Nitrogen Fertilizer Solution	C	C	C
Nitrogen Soluton, 19%	C	C	C
2-Nitropropane	NS	NS	C
Ortho-Nitrotoluene	NS	C	C

VITON®	A	GF	ETP
Nonene	C	A	A
Para-Nonyl Phenol	C	C	C
Nonylene	C	C	C
Nonylphenol	C	C	C
Octadecene	C	A	A
Octadecyltrichlorosilane	-	-	-
Octane	A	A	A
Octanoic Acid	C	A	A
Octyl Alcohol	A	A	A
Tert-Octylamine	NS	C	C
Octyl Alcohol	A	A	A
Olefins	A	A	A
Oleic Acid	C	A	A
Oleum	C	A	A
Orange Juice	A	A	A
Oxygen	A	A	A
Palmitic Acid	A	A	A
Paraffin Oil	C	A	A
Paraffin Wax	A	A	A
Paraldehyde	NS	NS	C
Pelargonic Acid	C	A	A
Pentachloroethane	C	A	A
Pentachlorophenol (solution)	C	A	A
Pentane	C	C	C
Pentene	C	A	A
Perchloroethylene	A	A	A
Perchlorothane	C	A	A
Petrolatum	A	A	A
Petroleum Oils	C	C	C
Petroleum Gas Oil	C	C	C
Petroleum Oil Additive	C	C	C
Phenol	A	A	A
Phenosulfonic Acid	A	A	A
Phenyl Methyl Ketone	NS	NS	C
Phenylacetaldehyde	NS	NS	C
Phenylethy Alcohol	C	C	C
Phosgene (carbonyl chloride)	NS	NS	NS
Phosphatic Fertilizer Solution	C	C	C
Phosphoric Acid	A	A	A
Phosphorus Chlorides	A	A	A
Phosphorus Pentachloride	C	C	C
Phosphorus Trichloride	A	A	A
Phthalate Esters, Mixed	C	C	C
Phthalic Anhydride	NS	C	C

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VITON®	A	GF	ETP
Pine Oil	A	A	A
Pinene	A	A	A
Pitch	C	A	A
Pivalic Acid (Neopentanoic Acid, Trimethylacetic Acid)	NS	C	C
Polyester Resin	A	A	A
Polyethylene Glycol	A	A	A
Polygglycol	C	A	A
Polisibutylene Amine	NS	C	C
Polyols	C	C	C
Polyoxyethylene Amine	NS	C	C
Polypropylene, Amorphous	A	A	A
Polypropylene	C	A	A
Polystrene	C	A	A
Polyvinyl Acetate Solution	NS	NS	C
Polyvinyl Methyl Ether	NS	C	C
Potash	A	A	A
Potash Alum Solution	C	A	A
Potassium Carbonate Solution	A	A	A
Potassium Cyanide Solution	A	A	A
Potassium Ferrocyanide Solution	C	A	A
Potassium Fluoride Solution	A	A	A
Potassium Hydroxide	NS	NS	A
Potassium Silicate Solution	A	A	A
Propane	A	A	A
Propane Butane Mix	A	A	A
Propanoic Acid (Propionic Acid)	NS	C	A
Propionaldehyde	NS	NS	C
Propionic Acid	NS	C	A
Propyl Acetate	NS	NS	C
Propyl Alcohol	A	A	A
Propyl Mercaptan	-	-	-
Propylamine	NS	NS	C
Propylene	A	A	A
Propylene (Propene)	A	A	A
Propylene Dichloride	C	A	A
1,2-Propylene Glycol	A	A	A
Propylene Gylcol Monomethylether	-	C	C
Propylene Gylcol Monomethylether Ether	-	C	C
Propylene Oxide	NS	NS	NS
Propyltrichlorosilane	-	-	-
Pyridine	NS	NS	C
Quinoline	A	A	A

VITON®	A	GF	ETP
Rapeseed Oil	A	A	A
Refrigerant Gases	C	C	C
Resins	C	C	C
Rosin	A	A	A
Rosin Oil	A	A	A
Rubber Solvent	NS	C	C
Rubber Extender Oil	C	C	C
Safflower Oil	A	A	A
Silicone Oil	A	A	A
Soap Solutions (skimmings)	A	A	A
Soapstock (same as detergents)	A	A	A
Sodium	A	A	A
Sodium Aluminate	C	A	A
Sodium Bichromate	A	A	A
Sodium Bisulfate Solution	A	A	A
Sodium Bisulfide (Hydrosulfide)	A	A	A
Sodium Bisulfite Solution	A	A	A
Sodium Bromide	C	A	A
Sodium Carbonate (solution)	A	A	A
Sodium Chlorate (solution)	C	A	A
Sodium Chloride	A	A	A
Sodium Cyanide (solution)	A	A	A
Sodium Dichromate (solution)	C	A	A
Sodium Ferrocyanide Solution	A	A	A
Sodium Hydrosulfide	C	A	A
Sodium Hydroxide (solution)	C	C	A
Sodium Hypochlorite (solution)	C	A	A
Sodium Nitrate (solution)	A	A	A
Sodium Silicate	A	A	A
Sodium Silicate Solution	A	A	A
Sodium Sulfide	A	A	A
Sodium Sulfide Solution	A	A	A
Sodium Sulfite Solution	A	A	A
Sorbitol	C	A	A
Soy Bean Oil	A	A	A
Spearmint Oil	C	A	A
Sperm Oil	C	A	A
Steam - 80 psig (156° C)	A	A	A
Stearic Acid	A	A	A
Stearyl Alcohol	C	A	A
Styrene	C	A	A
Sugar	A	A	A
Sugar Solution	A	A	A

VITON®	A	GF	ETP
Sulfur	A	A	A
Sulfur Chloride	A	A	A
Sulfur Dioxide	C	A	A
Sulfur Trioxide	A	A	A
Sulfuric Acid	C	A	A
Sunflower Oil	C	A	A
Tall Oil	A	A	A
Tallow	A	A	A
Tetrachlorobenzene	C	A	A
1,1,2,2-Tetrachloroethane	A	A	A
1-Tetradecanol	C	C	C
Tetradecanol	C	C	C
Tetraethyl Lead (TEL)	A	A	A
Tetrahydro Benzaldehyde	NS	NS	C
Tetrahydrobenzaldehyde	NS	NS	C
Tetrahydrofurn (THF)	NS	NS	C
Tetrahydrofurfuryl Alcohol	NS	NS	C
Therminol	A	A	A
Thionyl Chloride	C	A	A
Tin Tetrachloride (Stannic Chloride)	A	A	A
Titanium	A	A	A
Titanium Dioxide (Slurry)	C	C	C
Titanium Tetrachloride	A	A	A
Toluene	C	A	A
Tricetin	NS	C	A
Tributoxyethyl Phosphate	C	A	A
Tributyl Phosphate	NS	C	A
Toluene Diisocyanate (TDI)	NS	NS	C
Toluene/Xylene Mixture	C	A	A
Ortho-Toluidine	NS	C	C
Tomato Paste	A	A	A
Transformer Oil (petro or mineral base)	C	C	C
Tributylamine	NS	NS	C
1,2,3 -Trichlorobenzene	C	A	A
1,2,4 -Trichlorobenzene	C	A	A
1,3,5 -Trichlorobenzene	C	A	A
1,1,1 -Trichloroethane	A	A	A
Trichloroethylene	A	A	A
ITrichloromonofluoromethane	C	C	-
Trichlorotrifluoroethane	NS	C	C
Tricresyl Phosphate	A	A	A
Tridecyl Alcohol	C	A	A

Chemical Ratings

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	VITON®	A	GF	ETP
Tridecylbenzen		C	C	A
Triethanolamine		NS	NS	C
Triethylamine		NS	NS	C
Triethylene Glycol		C	A	A
Triethylenetetramine		NS	NS	C
Trimethylacetic Acid (Neopentanoic Acid, Pivalic Acid)		NS	C	C
Trimethylamine, Anhydrous (TMA)		NS	NS	C
Trimethylamine, Aqueous		NS	NS	C
Tripropylene Glycol		C	A	A
Tung Oil		A	A	A
Turpentine		C	A	A
Tween 80 (20% @70° C)		A	A	A

	VITON®	A	GF	ETP
Urea		A	A	A
Urea Solution		C	A	A
n-Valeraldehyde		NS	NS	C
Valeric Acid		A	A	A
Vegetable Oil		A	A	A
Vinyl Acetate		NS	NS	C
Vinyl Butyl Ether		NS	C	C
Vinyl Chloride (VCM)		C	A	A
Vinyl Ether		NS	C	C
Vinyl Ethyl Ether		NS	C	C
Vinyl Methyl Ether		NS	C	C
Vinyl Resin		A	A	A
Vinylidene Chloride		A	A	A

	VITON®	A	GF	ETP
Waste Water		C	A	A
Wax		C	A	A
Whiskey		A	A	A
Wood Sugar Molasses		A	A	A
meta-Xylene		C	A	A
para-Xylene		C	A	A
Xylidine		NS	C	C
Zinc Chloride Solution		A	A	A
Zinc Sulfate		A	A	A

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