

SELECTING THE RIGHT SEALING MATERIAL

Criteria for Seal Selection

When choosing the right elastomeric seals for specific applications, there are a number of important factors that should be considered: probable service conditions, the design requirements, inspection requirements for the application and material specification and traceability.

1. Service Conditions

- Fluid to be sealed, including any contaminants or additives
- Temperature range, minimum and maximum temp, thermal cycling and potential excursions
- Pressure range, minimum and maximum pressure, the error range and compression/decompression rate for high pressure conditions
- Vacuum application - where it is applied and whether the vacuum is cyclic
- Motion - static or dynamic. if it is dynamic, describe the motion

2. Design Requirements

- Component type e.g: O-ring, gasket, diaphragm, etc.
- Media's effect on the seal
- Desired service life. If your replacing a failed seal then specify what materials it was constructed from so that we can ascertain a reason for failure
- Considerations for assembly including lubricants, installed stretch, etc
- Critical dimensions and tolerances

3. Inspection Requirements

- Define inspection criteria
- Determining the need for lot sampling
- Setting acceptable quality levels (AQL's)
- Indicating the critical sealing surface

4. Material Specification

- Define material specifications by recognised standards
- Contact us to discuss the procedure for specifying and certifying sealing materials
- We can provide information regarding compound changes and how to protect yourself from it. Are hardness buttons, tensile bars or other test specimens required for verification of incoming materials

Get the Best Value for Your Money

When you choose materials for your sealing application then you will need to consider the overall costs involved based on seal performance, life span, maintenance costs and material price, for example an EPDM seal may be appropriate for many general heat and steam applications, but inappropriate at higher temperatures when contaminated steam and frequent maintenance are required. The higher price of a Fluoroelastomer or Perfluoroelastomer can be recouped many times over by a seals long service life. Specifying the proper high performance seal can also prevent costly unscheduled downtime and dangerous leakage.

PROPERTIES OF GENERAL SEALING ELASTOMERS

APPLICATION PROPERTIES

	Perfluoroelastomer AFLAS®	Fluoroelastomer Ethylene Propylene	Nitrile	Silicone	Fluorosilicone		
ASTM D1418	FFKM	TFE	FKM	EPDM	NBR	VQM	FVMQ
Operating Temperature Range							
Low Temperature	-15°C	0°C	-40°C	-55°C	-35°C	-90°C	-60°C
High Temperature	+316°C	+204°C	+204°C	+150°C	+110°C	+230°C	+200°C
Physical Properties							
Abrasion Resistance	3	2	2	1	2	4	4
Permeation Resistance	2	2	1	2	2	4	4
Compression Set Resistance	2	2	1	2	1	1	1
Tear Resistance	3	3	3	1	2	4	4
Chemical Compatibility							
Inorganic							
Acids	1	1	1	1	2	3	2
Bases	1	1	4	1	2	3	3
Organic							
Acids	1	1	1	1	2	1	2
Alcohols	1	1	3	1	1	1	1
Aldehydes	1	4	3	1	3	2	4
Amines	2	1	4	1	4	2	4
Aromatic Hydrocarbons	1	4	1	4	3	4	1
Ether	1	3	4	4	3	4	4
Halogenides	2	4	1	4	4	4	4
Ketone	1	4	4	1	4	4	4
Water	1	1	1	1	1	1	1
Steam (<149°C)	1	2	2	1	4	3	4
Steam (>149°C)	2	3	4	4	4	4	4

1= Excellent 2= Good 3= Fair 4= Poor

VITON IS A REGISTERED TRADEMARK OF DU PONT DOW ELASTOMER COMPANY
AFLAS IS A REGISTERED TRADEMARK OF ASAHI GLASS COMPANY

CHEMICAL COMPATIBILITY GUIDE

Rating System

Rating	Description	Volume change	Comments
1	Little or no effect	<10%	Elastomer may exhibit slight swelling and/or loss of physical properties under severe conditions.
2	Possible loss of physical properties	10-20%	Elastomer may exhibit swelling in addition to a change in physical properties. May be suitable for static applications.
3	Noticeable change	20-40%	Elastomer exhibits a noticeable change in swelling and physical properties. Questionable performance in most applications
4	Excessive change	>40%	Elastomer not suitable for service
-	Insufficient information		Insufficient information available for rating

Chemical Compatibility Tables

This book has been produced to assist the user in determining the stability of a variety of elastomers in different chemical environments. The ratings are based on a combination of published literature, laboratory tests, actual field experience, and informal judgements. As laboratory test do not necessarily predict end use performance. It is essential that users should conduct their own evaluations to determine application suitability individually.

NOTE: Volume swell is only one indicator of elastomer fluid compatibility and may be based on the solubility parameter alone. Fluid attack on the backbone of the polymer may show up as a change in physical properties such as Tensile Strength, Elongation at Break, and Hardness.

High temperatures and extended exposure may create more extreme conditions than indicated in these guidelines. In some cases, specific elastomer compounds within a material family may provide improved compatibility. These cases are noted by an (*). Please contact Clwyd Compounders for advice.

Please bear in mind that whilst this information is believed to be reliable, no representation, guarantees or warranties of any kind are made to its accuracy or suitability for any purpose. The information presented is based on laboratory testing and does not necessarily indicate end product performance. It is recommended that users conduct their own evaluations to determine suitability for the intended application.

AR-AM CHEMICAL

CHEMICAL NAME	FORMULA	CAS/Mfgr	Perfluoroelastomer	AFLAS®	VITON®	Ethylene Propylene	Nitrile Buna-N	Silicone	Fluorosilicone
Abietic Acid	C ₁₉ H ₂₉ COOH	514-10-3	1						
Acetaldehyde	CH ₃ CHO	75-07-0	2	4	4	2	4	2	4
Acetamide	CH ₃ CONH ₂	60-35-5	1	2	3	1	1	2	1
Acetanilide	C ₆ H ₅ NH(COCH ₃)	103-84-4	1						
Acetic Acid, 30%	CH ₃ COOH	64-19-7	1		3	1	2	1	2
Acetic Acid, Glacial	CH ₃ COOH	64-19-7	1	3	4	2	2	2	4
Acetic Anhydride	(CH ₃ CO) ₂ O	108-24-7	1	2	4	2	4	3	4
Acetoacetic Acid	CH ₃ COCH ₂ COOH	541-50-4	1						
Acetone	CH ₃ COCH ₃	67-64-1	1	4	4	1	4	3	4
Acetone Cyanohydrin	(CH ₃) ₂ COHCN	75-86-5	1						
Acetonitrile	CH ₃ CN	75-05-8	1	1	1	1	3		
Acetophenetidin	CH ₃ CONHC ₆ H ₄ OC ₂ H ₅	62-44-2	1						
Acetophenone	C ₆ H ₅ COCH ₃	98-86-2	1	4	4	1	4	4	4
Acetylacetone	CH ₃ COCH ₂ OCCH ₃	123-54-6	1	4	4	1	4	4	4
Acetyl-o-Toluidine	CH ₃ CONHC ₆ H ₄ CH ₃	27985-75-7	1						
Acetyl Bromide	CH ₃ COBr	506-96-7	1						
Acetyl Chloride	CH ₃ COCl	75-36-5	1	1	1	4	4	3	1
Acetylene	HCCH	74-86-2	1	1	1	1	1	2	-
Acetylene Tetrabromide	(CHBr ₂) ₂	79-27-6	1	1	1	1	4	4	2
Aconitic Acid	H(COOH)C:C(COOH)CH ₂ (COOH)	499-12-7	1						
Acridine	C ₁₃ H ₉ N	260-94-6	1						
Acrolein	CH ₂ CHCHO	107-02-8	1						
Acrylic Acid	H ₂ C:CHCOOH	79-10-7	1	4	4	3	2		
Acrylonitrile	H ₂ C:CHCN	107-13-1	1	2	3	4	4	4	4
Adipic Acid	COOH(CH ₂) ₃ COOH	124-04-9	1	2	2	2	1	-	1
Aero Lubriplate			1	1	1	4	1	2	1
Aero Shell 17 Grease	Shell Oil		1	1	1	4	1	2	1
Aero Shell IAC Grease	Shell Oil		1	1	1	4	1	2	1
Aero Shell 750	Shell Oil		1	1	1	4	2	4	2
Aero Shell 7A Grease	Shell Oil		1	1	1	4	2	2	1
AEROSAFE 2300			1	3	4	1	4	3	3
AEROSAFE 2300W			1	2	4	1	4	3	3
Aerosafe 50 (50%Hydrazine, 50%UDMH)			2	2	4	1	3	4	4
Air, Below 200° F			1	1	1	1	1	1	1
Alkanesulphonic Acid, Mixed	RSO ₃ H (methyl, ethyl, propyl)		1						
Alkazene			1	2	2	4	4	4	2
Allyl Chloride	H ₂ CCHCH ₂ Cl	107-5-1	1	2	2	1	2		
Aluminum Acetate	Al(C ₂ H ₃ O ₂) ₃	139-12-8	1	1	4	1	2	4	4
Aluminum Bromide	AlBr ₃	7727-15-3	1	1	1	1	1	1	1
Aluminum Chlorate	Al(ClO ₃) ₃	15477-33-5	1						
Aluminum Chloride	AlCl ₃	7446-70-0	1	1	1	1	1	2	1
Aluminum Ethylate	Al(OC ₂ H ₅) ₃	555-75-9	1						
Aluminum Fluoride	AlF ₃	7784-18-1	1	1	1	1	1	2	1
Aluminum Fluorosilicate	Al ₂ (SiF ₆) ₃		1						
Aluminum Hydroxide	AlOH ₃	21645-51-2	1	1	2	2	2		
Aluminum Nitrate	Al(NO ₃) ₃ ·9 HOH	13473-90-0	1	1	1	1	2	2	-
Aluminum Oxalate	Al ₂ C ₆ O ₁₂	814-87-9	1						
Aluminum Phosphate	AlPO ₄	7784-30-7	1	1	1	1	1	1	-
Aluminum Potassium Sulfate	AlK(SO ₄) ₂ ·12 HOH	7784-24-9	1						
Aluminum Salts			1	1	1	1	1	1	1
Aluminum Sodium Sulfate	AlNa(SO ₄) ₂ ·12 HOH	10024-42-7	1						
Aluminum Sulfate	Al ₂ (SO ₄) ₃	10043-01-3	1	1	1	1	1	1	1
AMBREX 33		Mobil	1	1	1	4	1	4	3
AMBREX 830		Mobil	1	1	1	3	1	2	1
Amnies Mixed (Eg: Allyl, Ethyl, Etc.)			1*	2	4	2	4	2	4
Aminanthraquinone	C ₆ H ₄ (CO) ₂ C ₆ H ₃ NH ₂	25620-59-1	1						
p-Aminoazobenzene	C ₆ H ₅ NNC ₆ H ₄ NH ₂	60-09-3	1						
p-Aminobenzoic Acid (PABA)	NH ₂ C ₆ H ₄ CO ₂ H	150-13-0	1	1	2	2	4		
2-(2-Aminoethoxy)ethanol	NH ₂ CH ₂ CH ₂ OCH ₂ CH ₂ OH		1						

1. LITTLE OR NO EFFECT (VOLUME SWELL <10%) 2. POSSIBLE LOSS OF PHYSICAL PROPERTIES (VOLUME SWELL 10-20%) 3. NOTICEABLE CHANGE (VOLUME SWELL 20-40%) 4. NOT SUITABLE FOR SERVICE - INSUFFICIENT DATA

AM-AN CHEMICAL

CHEMICAL NAME	FORMULA	CAS/Mfgr	Material Compatibility							
			Perfluoroelastomer	AFLAS®	VITON®	Ethylene Propylene	Nitrile Buna-N	Silicone	Fluorosilicone	
p-Aminophenol	C ₆ H ₄ NH ₂ OH	123-30-8	1							
2-Aminopyridine	C ₅ N ₄ NNH ₂	92-67-1	1	3	4	2	4			
4-Aminosalicylic Acid	NH ₂ C ₆ H ₃ (OH)COOH	65-49-6	1							
Ammonia + Lithium Metal Solution			4	4	4	2	4	4	4	
Ammonia Gas, Cold	NH ₃	7664-41-7	1	1	4	1	1	1	1	4
Ammonia Gas, Hot	NH ₃	7664-41-7	1	2	4	2	4	1	1	4
Ammonia Liquid	NH ₃	7664-41-7	1	3	4	1	2	2	2	4
Ammonium Acetate	NH ₄ (C ₂ H ₃ O ₂)	631-61-8	1							
Ammonium Arsenate	(NH ₄) ₂ HAsO ₄	7784-44-3	1							
Ammonium Benzoate	C ₆ H ₅ COONH ₄	1863-63-4	1							
Ammonium Bicarbonate	NH ₄ HCO ₃	1066-33-7	1							
Ammonium Bifluoride	NH ₄ HF ₂	1341-49-7	1							
Ammonium Bromide	NH ₄ Br	12124-97-9	1							
Ammonium Carbamate	NH ₄ CO ₂ NH ₂	1111-78-0	1							
Ammonium Carbonate	(NH ₄)HCO ₃ :(NH ₄)CO ₂ NH ₂	506-87-6	1	1	3	1	4	-	-	
Ammonium Chloride	NH ₄ Cl	12125-02-9	1			1	1	1	-	-
Ammonium Citrate, Dibasic	(NH ₄) ₂ HC ₆ H ₅ O ₇	3458-72-8	1							
Ammonium Dichromate	(NH ₄) ₂ Cr ₂ O ₇	7789-09-5	1							
Ammonium Fluoride	NH ₄ F	12125-01-8	1							
Ammonium Fluorosilicate	(NH ₄) ₂ SiF ₆	1309-32-6	1							
Ammonium Formate	HCOONH ₄	540-69-2	1							
Ammonium Hydroxide, Conc	NH ₄ OH	1336-21-6	1	1	2	1	4	1	1	
Ammonium Iodide	NH ₄ I	12027-06-4	1							
Ammonium Molybdate	(NH ₄) ₆ Mo ₇ O ₂₄ :4 H ₂ O	11098-84-3	1							
Ammonium Nitrate	NH ₄ NO ₃	6484-52-2	1	1	1	1	1	2	-	
Ammonium Oxalate	(NH ₄) ₂ C ₂ O ₄ :H ₂ O	1113-38-8	1							
Ammonium Perchlorate	(NH ₄ ClO ₄)	7790-98-9	1							
Ammonium Persulfate	(NH ₄) ₂ S ₂ O ₈	7727-54-0	1	1	3	1	4	-	1	
Ammonium Phosphate, Dibasic	(NH ₄) ₂ HPO ₄	10124-31-9	1	1	1	1	1	1	-	
Ammonium Phosphite	(NH ₄) ₂ HPO ₃ :H ₂ O		1							
Ammonium Picrate	C ₆ H ₂ (NO ₂) ₃ ONH ₄	131-74-8	1							
Ammonium Polysulfide	(NH ₄) ₂ S	9080-17-5	1							
Ammonium Salts			1	1	3	1	1	1	1	3
Ammonium Sulfamate	NH ₄ OSO ₂ NH ₂	7773-06-0	1							
Ammonium Sulfate	(NH ₄) ₂ SO ₄	7783-20-2	1	1	1	1	1	-	-	
Ammonium Sulfide	(NH ₄) ₂ S	12124-99-1	1	1	1	1	1	-	-	
Ammonium Sulfite	(NH ₄) ₂ SO ₃ :H ₂ O	10196-04-0	1							
Ammonium Thiocyanate	NH ₄ SCN	1762-95-4	1							
Ammonium Thioglycollate	HSCH ₂ COONH ₄	5421-46-5	1							
Ammonium Thiosulfate	(NH ₄) ₂ S ₂ O ₃	1183-18-8	1							
Ammonium Tungstate	(NH ₄) ₆ W ₇ O ₂₄ :6 HOH	11140-77-5	1							
Ammonium Valerate	C ₅ H ₁₃ NO ₂	42739-38-8	1							
Amyl Acetate	CH ₃ COOC ₅ H ₁₁	628-63-7	1	4	4	1	4	4	4	
Amyl Alcohol	C ₅ H ₁₁ OH	71-41-0	1	1	1	1	2	4	1	
Amyl Borate			1	1	1	4	1	-	-	
Amyl Chloride	CH ₃ (CH ₂) ₃ CH ₂ Cl	543-59-9	1	1	1	4	1	4	2	
Amyl Chloronaphthalene		1320-31-6	1	2	1	4	4	4	2	
tert-Amyl Methyl Ether (TAME)			1							
Amyl Naphthalene		1320-27-0	1	2	1	4	4	4	1	
Amyl Nitrate	C ₅ H ₁₁ NO ₃	1002-16-0	1							
Amyl Nitrite	(CH ₃) ₂ CHCH ₂ CH ₂ NO ₂	110-46-3	1							
Amyl Propionate	CH ₃ CH ₂ COOC ₅ H ₁₁	624-54-4	1							
Amylcinnamic Aldehyde	C ₆ H ₅ CH:C(CHO)C ₅ H ₁₁	122-40-7	1							
o-sec-Amylphenol	C ₅ H ₁₁ C ₆ H ₄ OH	1322-06-1	1							
AN-0-3 Grade M			1	1	1	4	1	2	1	
AN-0-6			1	1	1	4	1	4	1	
AN-0-366			1	1	1	4	1	4	1	
Anderol (Diester)		Lehigh Chemical	1	2	1	4	2	4	2	
ANG-25 (Diester Base)			1	2	1	4	2	2	2	

1. LITTLE OR NO EFFECT (VOLUME SWELL <10%) 2. POSSIBLE LOSS OF PHYSICAL PROPERTIES (VOLUME SWELL 10-20%) 3. NOTICEABLE CHANGE (VOLUME SWELL 20-40%) 4. NOT SUITABLE FOR SERVICE - INSUFFICIENT DATA

The information presented is based on laboratory testing and does not necessarily indicate end product performance. It is recommended that users of PTM products conduct their own evaluations to determine suitability for the intended application.

AN-BA CHEMICAL

CHEMICAL NAME	FORMULA	CAS/Mfgr	Perfluoroelastomer	AFLAS®	VITON®	Ethylene Propylene	Nitrile Buna-N	Silicone	Fluorosilicone
ANG-25 (Glycerol Ester)			1	2	1	1	2	2	2
Aniline	C ₆ H ₅ NH ₂	62-53-3	1	2	2	2	4	4	3
Aniline Dyes			1	1	2	2	4	3	2
Aniline Hydrochloride	C ₅ H ₅ NH ₂ :HCl	142-04-1	1	1	2	3	4	4	2
Aniline Oils			1	2	3	2	4	4	3
Animal Fats (Lard)			1	1	1	2	1	2	1
Anisole	C ₆ H ₅ OCH ₃	100-66-3	1						
Anisoyl Chloride	CH ₃ OC ₆ H ₄ COCl	100-07-2	1						
Ansul Ether 161 or 181			1	1	4	3	3	4	3
Anthracene	C ₆ H ₄ (CH) ₂ C ₆ H ₄	120-12-7	1						
Anthranilic Acid	C ₆ H ₄ (NH ₂)(CO ₂ H)	118-92-3	1						
Anthraquinone	C ₆ H ₄ (CO) ₂ C ₆ H ₄	84-65-1	1						
Antimony Pentachloride	SbCl ₅	7647-18-9	1						
Antimony Pentafluoride	SbF ₅	7783-70-2	2						
Antimony Sulfate	Sb ₂ (SO ₄) ₃	7446-32-4	1						
Antimony Tribromide	SbBr ₃	7789-61-9	1						
Antimony Trichloride	SbCl ₃	10025-91-9	1						
Antimony Trifluoride	SbF ₃	7783-56-4	2						
Antimony Trioxide	Sb ₂ O ₃	1309-64-4	1	1	1	1	1		
AN-VV-0-366B Hydraulic			1	1	1	4	1	4	1
Aqua Regia	HNO ₃ :HCl (1:3)	8007-56-5	1*	3	2	3	4	4	3
Arachidic Acid	CH ₃ (CH ₂) ₁₈ COOH	506-30-9	1						
Argon	Ar	7440-37-1	1	1	1	1	1	2	2
AROCLOR 1248		12672-29-6	1	1	1	2	3	3	2
AROCLOR 1254		11097-69-1	1	1	1	2	4	3	1
AROCLOR 1260		11096-82-5	1	1	1	2	1	1	1
Aromatic Fuels			1	2	1	4	2	4	2
Arsenic Acid	H ₃ AsO ₄ :1/2 H ₂ O	7778-39-4	1	1	1	1	1	1	1
Arsenic Pentafluoride	AsF ₅		2						
Arsenic Trichloride	AsCl ₃	7784-34-1	1	4	4	4	1	-	-
Arsenic Trioxide	As ₂ O ₃	1327-53-3	1						
Arsenic Trisulfide	As ₂ S ₃	1303-33-9	1						
Arsine	AsH ₃	7784-42-1	1						
Ascorbic Acid	C ₆ H ₈ O ₆	5081-7	1						
Askarel Transformer Oil		134010-07-4	1	1	1	4	2	4	2
Aspartic Acid	COOHCH ₂ CH(NH ₂)COOH	56-84-8	1						
Asphalt		8052-42-4	1		1	4	2	4	2
Aspirin	CH ₃ COOC ₆ H ₄ COOH	50-78-2	1						
ASTM Oil No.1		Exxon Chemical	1	1	1	4	1	1	1
ASTM Oil No.2			1	2	1	4	1	4	1
ASTM Oil No.3		Sun Oil	1	3	1	4	1	3	1
ASTM Oil No.4			1	2	1	4	2	4	2
ASTM Oil No.5			1	1	1	4	1		
ASTM Reference Fuel A	(CH ₃) ₃ CHCH ₂ C(CH ₃) ₂		1	3	1	4	1	4	1
ASTM Reference Fuel B	(CH ₃) ₃ CHCH ₂ C(CH ₃) ₂ :C ₆ H ₅ CH ₃ (7:3)		1	4	1	4	1	4	1
ASTM Reference Fuel C	(CH ₃) ₃ CHCH ₂ C(CH ₃) ₂ :C ₆ H ₅ CH ₃ (1:1)		1	4	2	4	2	4	2
ASTM Reference Fuel D			1	4	1	4	2		
AUREX 903R		Mobil	1	1	1	4	1	4	4
Automatic Transmission Fluid			1	1	1	4	1	4	-
Automotive Brake Fluid			1	1	4	1	3	3	4
AXAREL 9100			1						
Azobenzene	C ₆ H ₅ N ₂ C ₆ H ₅	103-33-3	1						
BARDOL B			1	2	1	4	4	4	2
Barium Carbonate	BaCO ₃	513-77-9	1						
Barium Chlorate	Ba(ClO ₃) ₂ :HOH	13477-00-4	1						
Barium Chloride	BaCl ₂ :2 H ₂ O	10361-37-2	1	1	1	1	1	1	1
Barium Cyanide	Ba(CN) ₂	542-62-1	1						
Barium Hydroxide	Ba(OH) ₂	17194-00-2	1	1	1	1	1	1	1
Barium Iodide	BaI ₂ :2 HOH	12718-50-8	1						

1. LITTLE OR NO EFFECT (VOLUME SWELL <10%) 2. POSSIBLE LOSS OF PHYSICAL PROPERTIES (VOLUME SWELL 10-20%) 3. NOTICEABLE CHANGE (VOLUME SWELL 20-40%) 4. NOT SUITABLE FOR SERVICE - INSUFFICIENT DATA

BA-BO CHEMICAL

CHEMICAL NAME	FORMULA	CAS/Mfgr	Perfluoroelastomer	AFLAS®	VITON®	Ethylene Propylene	Nitrile Buna-N	Silicone	Fluorosilicone
Barium Nitrate	Ba(NO ₃) ₂	0022-31-8	I						
Barium Oxide	BaO	1304-28-5	I						
Barium Peroxide	BaO ₂ ·8 HOH	1304-29-6	I						
Barium Salts			I	I	I	I	I	I	I
Barium Sulfate	BaSO ₄	7727-43-7	I	I	I	I	I	I	I
Barium Sulfide	BaS	21109-95-9	I	I	I	I	I	I	I
BAYOL 35			I	I	I	4	I	4	I
BAYOL D			I	I	I	4	I	4	I
Benzaldehyde	C ₆ H ₅ CHO	100-52-7	2	2	4	I	4	4	4
Benzamide	C ₆ H ₅ CONH ₂	55-21-0	I						
Benzanthrone	C ₁₇ H ₁₀ O	82-05-3	I						
Benzene	C ₆ H ₆	71-43-2	I	3	2	4	4	4	I
Benzene Hexachloride (BHC)		58-89-9	I						
Benzenesulfonic Acid	C ₆ H ₅ SO ₃ H	42615-29-2	I	I	I	4	4	4	2
Benzidine	NH ₂ (C ₆ H ₄) ₂ NH ₂	92-87-5	I						
Benzil	C ₆ H ₅ CO:CO C ₆ H ₅	134-81-6	I						
Benzilic Acid	(C ₆ H ₅) ₂ C(OH)COOH	76-93-7	I						
Benzoic Acid	C ₆ H ₅ COOH	65-85-0	I	I	I	4	4	4	2
Benzoin	C ₆ H ₅ CHOHCOC ₆ H ₅	119-53-9	I						
Benzonitrile	C ₆ H ₅ CN	100-47-0	I						
Benzophenone	(C ₆ H ₅) ₂ CO	119-61-9	I	I	I	2	4	-	I
Benzotrichloride	C ₆ H ₅ CCl ₃	98-07-7	I	3	I	I	4		
Benzotrifluoride	C ₆ H ₅ F ₃	98-08-8	I						
Benzoyl Chloride	C ₆ H ₅ COCl	98-88-4	I	2	2	4	4	-	2
Benzoyl Peroxide	(C ₆ H ₅ CO ₂) ₂ O ₂	94-36-0	I						
Benzyl Acetate	C ₆ H ₅ CH ₂ OOCCH ₃	140-11-4	I						
Benzyl Alcohol	C ₆ H ₅ CH ₂ OH	100-51-6	I	2	I	2	4	2	2
Benzylamine	C ₆ H ₅ CH ₂ NH ₂	100-46-9	I						
Benzyl Benzoate	C ₆ H ₅ CH ₂ OOC C ₆ H ₅	120-51-4	I	3	I	2	4	-	I
Benzyl Bromide	C ₆ H ₅ CH ₂ Br	100-39-0	I						
Benzyl Chloride	C ₆ H ₅ CH ₂ Cl	100-44-7	I	2	I	4	4	4	I
p-Benzylphenol	C ₆ H ₅ CH ₂ C ₆ H ₄ OH	1322-51-6	I						
Benzyl Salicylate	CH ₄ (C ₆ H ₄ OH)COOCH ₂ C ₆ H ₅	118-58-1	I						
Beryllium Chloride	BeCl ₂	7787-47-5	I						
Beryllium Fluoride	BeF ₂	7787-49-7	I						
Beryllium Oxide	BeO	1304-56-9	I						
Beryllium Sulfate	BeSO ₄ ·4 H ₂ O	13510-49-1	I						
Bismuth Nitrate	Bi(NO ₃) ₃ ·5 HOH	10361-44-1	I						
Bismuth Oxychloride	BiOCl	7787-59-9	I						
Bismuth Subcarbonate	(BiO) ₂ CO ₃		I						
Bittern			I						
Black Liquor			3	2	2	2	2		
Black Point 77			I	I	I	I	I	3	3
Blast-Furnace Gas			I	I	I	4	4	I	2
Bleach Liquor	Ca(OCl) ₂ ·H ₂ O		I	I	I	I	4	2	2
Bone Oil		8001-85-2	I	I	I	2	I		
Borane	BH ₃		I						
Borax	Na ₂ B ₄ O ₇ ·10 H ₂ O		I	I	I	I	2	2	2
Bordeaux Mixture			I	I	I	I	2	2	2
Boric Acid	H ₃ BO ₃	10043-35-3	I	I	I	I	I	I	I
Boric Oxide	B ₂ O ₃	1303-86-2	I						
Borneol	C ₁₀ H ₁₇ OH	507-70-0	I						
Bornyl Acetate	C ₁₀ H ₁₇ OOCCH ₃	76-49-3	I						
Bornyl Formate	C ₁₀ H ₁₇ OOCH	7492-41-3	I						
Boron Fluids (HEF)			I	I	I	4	2	4	2
Boron Phosphate	BPO ₄	13308-51-5	I						
Boron Tribromide	BBr ₃	10294-33-4	I						
Boron Trichloride	BCl ₃	10294-34-5	I						
Boron Trifluoride	BF ₃	7637-07-2	I						

I. LITTLE OR NO EFFECT (VOLUME SWELL <10%) 2. POSSIBLE LOSS OF PHYSICAL PROPERTIES (VOLUME SWELL 10-20%) 3. NOTICEABLE CHANGE (VOLUME SWELL 20-40%) 4. NOT SUITABLE FOR SERVICE - INSUFFICIENT DATA

The information presented is based on laboratory testing and does not necessarily indicate end product performance. It is recommended that users of PTM products conduct their own evaluations to determine suitability for the intended application.

BO-CA CHEMICAL

CHEMICAL NAME	FORMULA	CAS/Mfgr	Perfluoroelastomer	AFLAS®	VITON®	Ethylene Propylene	Nitrile Buna-N	Silicone	Fluorosilicone
Boron Trioxide	B ₂ O ₃	1303-86-2	1						
BRAYCO 885 (MIL-L-6085A)			1	2	1	4	2	4	2
BRAYCO 910			1	3	4	1	2	4	4
Brine	NaCl:H ₂ O		1	1	1	1	1	1	1
Bromic Acid	HBrO ₃	7789-31-3	1						
Bromine	Br	7726-95-6	1	1	1	4	4	4	2
Bromine Pentafluoride	BrF ₅	7789-30-2	2*	4	4	4	4	4	4
Bromine Trifluoride	BrF ₃	7787-71-5	2*	4	4	4	4	4	4
Bromine, Anhydrous	Br	7726-95-6	1	1	1	4	4	4	2
Bromobenzene	C ₆ H ₅ Br	108-86-1	1	4	1	4	4	4	1
Bromochloromethane	BrCH ₂ Cl	74-97-5	1	3	1*	2	4	4	2
Bromochloropropane	Br(CH ₂) ₃ Cl		1						
Bromochlorotrifluoroethane(HALOTHANE)	CF ₃ CHBrCl	151-67-7	1	1	1	4	4	4	2
Bromoform	CHBr ₃	75-25-2	1						
Bromotrifluoroethylene (BFE)	BrFC:CF ₂		1						
Bromotrifluoromethane (FC 13B1)	CBrF ₃		2		1	1	1	4	2
Buffered Oxide Etchants (BOE)	NH ₄ :HF (10:1)		1						
Bunker Oil			1	2	1	4	1	2	1
1,3-Butadiene	H ₂ C:CHHC:CH ₂	106-99-0	1	2	2	4	4	4	1
Butane	CH ₃ CH ₂ CH ₂ CH ₃	106-97-8	1	2	1	4	1	4	1
n-Butyl Acetate	CH ₃ COO(CH ₂) ₄	123-86-4	1	4	4	2	4	4	4
Butyl Acetyl Ricinoleate	C ₂₄ H ₄₄ O ₄	140-04-5	1	1	1	1	2	-	2
n-Butyl Acrylate	CH ₂ :CHCOOC ₄ H ₉	141-32-2	1	4	4	4	4	-	4
n-Butyl Alcohol	CH ₃ (CH ₂) ₂ CH ₂ OH	71-36-3	1	1	1	2	1	2	1
sec-Butyl Alcohol (SBA)	CH ₃ CH ₂ CHOHCH ₃	78-92-2	1						
tert-Butyl Alcohol	(CH ₃) ₃ COH	75-65-0	1	1	1	2	2	2	2
Butyl Amine	C ₄ H ₉ NH ₂	109-73-9	1	2	4	4	3	4	4
Butyl Benzoate	C ₆ H ₅ COOC ₄ H ₉	136-60-7	1		1	1	4	-	1
Butyl Benzyl Phthalate (BBP)	C ₄ H ₉ OOCC ₆ H ₄ COOC ₇ H ₇	85-68-7	1						
n-Butyl Butyrate	CH ₃ (CH ₂) ₂ COOC ₄ H ₉	109-21-7	1		1	1	4	-	1
Butyl CARBITOL	C ₄ H ₉ O(CH ₂) ₂ O(CH ₂) ₂ OH	112-34-5	1	2	1*	1	4	4	4
p-tert-Butylcatechol	(CH ₃) ₃ CC ₆ H ₃ (OH) ₂	27213-78-1	1	1	1	2	4	-	1
Butyl CELLOSOLVE	HO(CH ₂) ₂ OC ₄ H ₉	111-76-2	1	3	4	2	3	-	4
Butyl CELLOSOLVE Acetate	C ₄ H ₉ C(CH ₂) ₂ OOCCH ₃		1	2	2	2	4	2	2
n-Butyl Chloride	C ₄ H ₉ Cl	109-69-3	1						
Butylene		25167-67-3	1		1	4	2	4	2
Butyl Ether	C ₄ H ₉ OC ₄ H ₉	142-96-1	1		4	3	3	4	3
Butyl Lactate	CH ₃ CHOHCOOC ₄ H ₉	138-22-7	1						
Butyl Laurate	C ₁₁ H ₂₃ COOC ₄ H ₉	106-18-3	1						
tert-Butyl Mercaptan		75-66-1	1	1	1	4	4	4	-
n-Butyl Methacrylate	H ₂ C:C(CH ₃)COOC ₄ H ₉	97-88-1	1						
Butyl Oleate	CH ₃ (CH ₂) ₇ CH ₂ CH(CH ₂) ₇ COOC ₄ H ₉	142-77-8	1	1	1	2	4	-	2
p-tert-Butylphenol	(CH ₃) ₃ CC ₆ H ₄ OH	98-54-4	1						
Butyl Stearate	C ₁₇ H ₃₅ COOC ₄ H ₉	123-95-51	1	1	1	4	2	-	2
Butyraldehyde	CH ₃ (CH ₂) ₂ CHO	123-72-8	2	4	4	2	4	4	4
Butyric Acid	CH ₃ (CH ₂) ₂ COOH	107-92-6	1		2	2	4	-	-
Butyric Anhydride	(CH ₃ CH ₂ CH ₂ CO) ₂ O	106-31-0	1						
Butyrolactone	O(CH ₂) ₃ CO	96-48-0	1						
Butyrol Chloride	C ₃ H ₇ COCl	141-75-3	1						
Cadmium Chloride	CdCl ₂	10108-64-2	1						
Cadmium Cyanide	Cd(CN) ₂	542-83-6	1	1	1	1	1		
Cadmium Nitrate	Cd(NO ₃) ₂	10325-94-7	1						
Cadmium Oxide	CdO	1306-19-0	1						
Cadmium Sulfate	CdSO ₄	10124-36-4	1						
Cadmium Sulfide	CdSO ₄	1306-23-6	1						
Calcine Liquors			1	1	1	1	1	-	1
Calcium Nitrate	Ca(NO ₃) ₂	10124-37-5	1	1	1	1	1	2	1
Calcium Acetate	Ca(CH ₃ COO) ₂	62-54-4	1	1	4	1	2	4	4
Calcium Arsenate	Ca ₃ (AsO ₄) ₂	7778-44-1	1	1	1	1	1		

1. LITTLE OR NO EFFECT (VOLUME SWELL <10%) 2. POSSIBLE LOSS OF PHYSICAL PROPERTIES (VOLUME SWELL 10-20%) 3. NOTICEABLE CHANGE (VOLUME SWELL 20-40%) 4. NOT SUITABLE FOR SERVICE - INSUFFICIENT DATA

CHEMICAL NAME	FORMULA	CAS/Mfgr	Perfluoroelastomer	AFLAS®	VITON®	Ethylene Propylene	Nitrile Buna-N	Silicone	Fluorosilicone
Calcium Bisulfite		13780-03-5				4		3	3
Calcium Bromide	CaBr ₂ ·6 H ₂ O	7789-41-5							
Calcium Carbide	CaC ₂	75-20-7							
Calcium Carbonate	CaCO ₃	1317-65-3							
Calcium Chlorate	Ca(ClO ₃) ₂ ·2 HOH	10137-74-3							
Calcium Chloride	CaCl ₂	10043-52-4							
Calcium Chromate	CaCrO ₄	13765-19-0							
Calcium Cyanamide	CaCN ₂	156-62-7							
Calcium Cyanide	Ca(CN) ₂	592-01-8							-
Calcium Fluoride	CaF ₂	7789-75-5							
Calcium Gluconate	Ca(C ₆ H ₁₁ O ₇) ₂	299-28-5							
Calcium Hydride	CaH ₂	57308-10-8							
Calcium Hydrogen Sulfite	Ca(HSO ₃) ₂					4	4		
Calcium Hydrosulfide	Ca(HS) ₂	12133-28-7							
Calcium Hydroxide	Ca(OH) ₂	1305-62-0							
Calcium Hypochlorite	Ca(OCl) ₂	7778-54-3					2	2	2
Calcium Hypophosphite	Ca(H ₂ PO ₂) ₂	7789-79-9							
Calcium Nitrate	Ca(NO ₃) ₂ ·4 HOH	10124-37-5						2	
Calcium Oxalate	CaC ₂ O ₄								
Calcium Oxide	CaO	1305-78-8							
Calcium Permanganate	Ca(MnO ₄) ₂ ·4 HOH	10118-76-0							
Calcium Peroxide	CaO ₂	1305-79-9							
Calcium Phosphate, Monobasic	CaH ₄ (PO ₄) ₂	7758-87-4							-
Calcium Propionate	Ca(OOCCH ₂ CH ₃) ₂	4075-81-4							
Calcium Salts								2	
Calcium Silicate		1344-95-2						-	-
Calcium Stearate	Ca(C ₁₈ H ₃₅ O ₂) ₂	1592-23-0							
Calcium Sulfamate	Ca(SO ₃ NH ₂) ₂ ·4 HOH	13770-92-8							
Calcium Sulfate	CaSO ₄	10101-41-4							
Calcium Sulfide	CaS	20548-54-3						2	
Calcium Sulfite	CaSO ₃ ·2 HOH	10257-55-3							
Calcium Thiocyanate	Ca(SCN) ₂ ·3 HOH	2092-16-2							
Calcium Thiosulfate							2		
Calcium Tungstate	CaWO ₄	7790-75-2							
Calcium Liquors								2	
Camphene	C ₁₀ H ₁₆	79-92-5							
Camphor	C ₁₀ H ₁₆ O	76-22-2							
Camphoric Acid	C ₈ H ₁₄ (COOH) ₂	5394-83-2							
Cane Sugar Liquors		57-50-1							
Capric Acid	CH ₃ (CH ₂) ₈ COOH	334-48-5							
Caproic Acid	CH ₃ (CH ₂) ₆ COOH	142-62-1							
Caproic Aldehyde		66-25-1			4	2	-	2	4
Caprolactam	(CH ₂) ₅ NHCO	105-60-2		2	4				
Carbamate						2	3	-	
Carbazole	(C ₆ H ₄) ₂ NH	86-74-8							
Carbitol		111-90-0			2	2	2	2	2
Carbolic Acid		108-95-2				2	4	4	
Carbon Dioxide, Dry	CO ₂	124-38-9			2	2		2	2
Carbon Dioxide, Wet	CO ₂	124-38-9			2	2			
Carbon Disulfide	CS ₂	75-15-0				4	4	4	
Carbon Fluorides	C ₄ F								
Carbonic Acid	H ₂ CO ₃	463-79-6					4		
Carbon Monoxide	CO	630-08-0							2
Carbon Tetrabromide	CBr ₄	558-13-4							
Carbon Tetrachloride	CCl ₄	56-23-5	*	4		4	2	4	2
Caro's Acid	H ₂ SO ₅								
Casein		9005-46-3							
Castor Oil		8001-79-4				2			
Caustic Lime	Ca(OH) ₂	1305-62-0							

1. LITTLE OR NO EFFECT (VOLUME SWELL <10%) 2. POSSIBLE LOSS OF PHYSICAL PROPERTIES (VOLUME SWELL 10-20%) 3. NOTICEABLE CHANGE (VOLUME SWELL 20-40%) 4. NOT SUITABLE FOR SERVICE - INSUFFICIENT DATA

CA-CH CHEMICAL

CHEMICAL NAME	FORMULA	CAS/Mfgr	Perfluoroelastomer	AFLAS®	VITON®	Ethylene Propylene	Nitrile Buna-N	Silicone	Fluorosilicone
Caustic Potash	KOH	1310-58-3	1*	1	4	1	2	3	3
Caustic Soda	NaOH	1310-73-2	1*	1	4	1	2	2	2
CELLOSOLVE		110-80-5	1	1	4	2	4	4	4
CELLOSOLVE Acetate	CH ₃ COO(CH ₂) ₂ OC ₂ H ₅	111-15-9	1	3	4	2	4	4	4
CELLUGUARD		Celanese Chem. 9004-35-7	1	1	1	1	1	1	1
Cellulose Acetate		9004-35-7	1						
CELLULOSE (Phosphate Esters)		Celanese Chem.	1	2	1*	1	4	1	3
CELLULUBE A60		Celanese Chem.	1	2	4	2	4	2	3
CELLUTHERM 2505A		Celanese Chem.	1	1	2	4	2	4	2
Cement, Portland	C ₄ A, C ₃ A, C ₃ S, C ₂ S		1	1	1	1	1		
Ceric Sulfate	Ce(SO ₄) ₂ ·4 H ₂ O		1						
Cerous Chloride	CeCl ₃	7790-86-5	1						
Cerous Fluoride	CeF ₃	7758-88-5	1						
Cerous Nitrate	Ce(NO ₃) ₃	10108-73-3	1						
Cetane (Hexadecane)	C ₁₆ H ₃₄	544-56-3	1	1	1	4	1	4	3
Cetyl Alcohol	C ₁₆ H ₃₃ OH	36653-82-4	1						
Chaulmoogric Acid	(CH ₂) ₂ (CH) ₃ (CH ₂) ₁₂ COOH	29106-32-9	1						
Chloral	CCl ₃ CHO	75-87-6	1						
Chloramine	NH ₂ Cl		1						
Chloradane	C ₁₀ H ₆ Cl ₈	57-74-9	1	1	1	4	2	4	2
Chlorextol			1	1	1	4	2	4	2
Chloric Acid	HClO ₃	7790-93-4	1						
Chlorinated Naphthalene	C ₁₀ H ₇ Cl		1	4	1	4	4	4	2
Chlorinated Salt Brine			1	1	1	4	4		
Chlorinated Solvents			1	4	1	4	4	4	1
Chlorine, Dry	Cl ₂	7782-50-5	1	3	1	4	4	4	1
Chlorine, Wet	Cl ₂	7782-50-5	1*	3	1	2	3	4	2
Chlorine Dioxide	ClO ₂	10049-04-4	2*	3	2	3	4	-	2
Chlorine Trifluoride	ClF ₃	7790-91-2	2*	4	4	4	4	4	4
Chlorine Water	H ₂ O:Cl ₂		1	1	1	2	3	4	-
Chloroacetaldehyde	ClCH ₂ CHO	107-20-0	2						
Chloroacetic Acid	CH ₂ ClCOOH	79-11-8	1	2	4	2	4	-	4
Chloroacetone	CH ₃ COCH ₂ Cl	78-95-5	1	4	4	1	4	4	4
Chloroacetyl Chloride	ClCH ₂ COCl	79-04-9	1						
m-Chloroaniline	ClC ₆ H ₄ NH ₂	108-42-9	1	2	3	2	4		
Chlorobenzaldehyde	C ₆ H ₄ CHOCl	35913-09-8	1						
Chlorobenzene	C ₆ H ₅ Cl	108-90-7	1		1	4	4	4	2
m-Chlorobenzotrifluoride	ClC ₆ H ₄ CF ₃	98-15-7	1		1	4	4	4	2
Chlorobromo Methane	BrCH ₂ Cl	74-97-5	1	3	1	2	4	4	2
Chlorobutadiene			1	3	1	4	4	4	2
Chlorodifluoroethane (FC 142b)	CH ₂ CClF ₂	75-68-3	2		4	1			
Chlorodifluoromethane (FC 22)	CHClF ₂	74-97-5	1		4	2	4	4	3
Chlorododecane		28519-06-4	1	2	1	4	4	4	1
Chloroform	CHCl ₃	67-66-3	1	4	1	4	4	4	3
Chlorohydrin	CH ₂ OHCHOHCH ₂ Cl	96-24-2	1	1	1	1	1		
p-Chloronitrobenzene	C ₆ H ₄ ClNO ₂	100-00-5	1						
Chloronitroethane		30283-93-3	1		4	4	4	4	4
Chloropentafluoroethane (FC 115)	CClF ₂ CF ₃	76-15-3	2*	4	1	1	1	-	-
o-Chlorophenol	C ₆ H ₄ OHCl	95-57-8	1		1	4	4	4	2
p-Chlorophenol	C ₆ H ₄ OHCl	106-48-9	1						
Chloropicrin	CCl ₃ NO ₂	76-06-2	1						
Chloroprene	H ₂ C:CHCl:CH ₂	126-99-8	1	3	1	4	4	4	2
Chlorosulfonic Acid	ClSO ₂ OH	7790-94-5	1		4	4	4	4	4
Chlorotetrafluoroethane (FC 124)	C ₂ ClF ₄		2						
p-Chlorotoluene	CH ₃ C ₆ H ₄ Cl	106-43-4	1		1	4	4	4	2
Chlorotoluene Sulfonic Acid	CH ₃ C ₆ H ₃ (SO ₃ H)Cl		1						
Chlorotrifluoromethane (FC 13)	CClF ₃	75-72-9	2		1	1	1	4	4
Chlorotritluoroethylene (CTFE)	ClFC:CH ₂	79-38-9	2						
Chlorox			1	1	1	2	2	-	1

1. LITTLE OR NO EFFECT (VOLUME SWELL <10%) 2. POSSIBLE LOSS OF PHYSICAL PROPERTIES (VOLUME SWELL 10-20%) 3. NOTICEABLE CHANGE (VOLUME SWELL 20-40%) 4. NOT SUITABLE FOR SERVICE - INSUFFICIENT DATA

CH-CY CHEMICAL

CHEMICAL NAME	FORMULA	CAS/Mfgr	Perfluoroelastomer	AFLAS®	VITON®	Ethylene Propylene	Nitrile Buna-N	Silicone	Fluorosilicone
Chloroxylenol	C ₆ H ₂ (CH ₃) ₂ OHCl	88-04-0	I						
Cholesterol	C ₂₇ H ₄₅ OH	57-88-5	I						
Choline	(CH ₃) ₃ NOH(CH ₂) ₂ OH	62-49-7	I						
Chrome Alum		10141-00-1	I	3	I	I	I	I	-
Chrome Plating Solution			I	I	I	2	4	2	2
Chromic Acid	H ₂ CrO ₄	7738-94-5	I	I	I	2	4	3	3
Chromic Chloride	CrCl ₃	10025-73-7	I						
Chromic Fluoride	CrF ₃	7788-97-8	I						
Chromic Hydroxide	Cr(OH) ₃	1308-14-1	I						
Chromic Nitrate	Cr(NO ₃) ₃	13548-38-4	I						
Chromic Oxide	Cr ₂ O ₃	1308-38-9	I	I	I	2	4		
Chromic Phosphate	CrPO ₄	7789-04-0	I						
Chromic Sulfate	Cr ₂ (SO ₄) ₃	10101-53-8	I						
Chromium Potassium Sulfate	CrK(SO ₄) ₂	10141-00-1	I	2	I	2	2		
Chromyl Chloride	CrO ₂ Cl ₂	14977-61-8	I						
Cinnamic Acid	C ₆ H ₅ CH:CHCOOH	621-82-9	I						
Cinnamic Alcohol	C ₆ H ₅ CH:CHCH ₂ OH	104-54-1	I						
Cinnamic Aldehyde	C ₆ H ₅ CH:CHCHO	104-55-2	I						
Circo Light Process Oil			I	I	I	4	I	4	I
Citric Acid	HOOCCH ₂ C(OH)(COOH)CH ₂ COOH	77-92-9	I	I	I	I	I	I	I
City Service 65,120, 250			I	I	I	4	I	4	I
City Service Kool Motor Oil No.140			I	I	I	4	I	4	I
City Service Pacemaker No.2			I	I	I	4	I	4	I
CLOROX		7681-52-9	I		I	2	2	2	2
Coal Tar		8007-45-2	I	I	I	4	I	4	I
Cobaltous Acetate	Co(C ₂ H ₃ O ₂) ₂	71-48-7	I						
Cobaltous Bromide	CoBr ₂	7789-43-7	I						
Cobaltous Chloride	CoCl ₂	7646-79-9	I	I	I	I	I	2	I
Cobaltous Linoleate	Co(C ₁₈ H ₃₁ O ₂) ₂		I						
Cobaltous Sulfate	CoSO ₄	10124-43-3	I						
Coconut Oil		8001-31-8	I	I	I	3	I	I	I
Cod Liver Oil		8001-69-2	I	I	I	I	I	2	I
Coke Oven Gas	H ₂ :CH ₄ :N ₂ :CO		I	I	I	4	4	2	2
CONVELEX10			I	2	I	3	4	4	-
COOLANOL		Monsanto	I	I	I	4	I	4	I
Copper Acetate	Cu(C ₂ H ₃ O ₂) ₂	142-71-2	I	4	4	I	2	4	4
Copper Carbonate	Cu ₂ (OH) ₂ CO ₃	12069-69-1	I						
Copper Chloride	CuCl ₂	1344-67-8	I	I	I	I	I	I	I
Copper Cyanide	Cu(CN) ₂	544-92-3	I	2	I	I	I	I	I
Copper Gluconate	[Cu ₂ OH(CHOH) ₄ COO] ₂ Cu	13005-35-1	I						
Copper Naphthenate		1338-02-9	I						
Copper Nitrate	Cu(NO ₃) ₂	3251-23-8	I	2	I	2	2		
Copper Salts			I	I	I	I	I	I	I
Copper Sulfate	CuSO ₄	7758-98-7	I	I	I	I	I	I	I
Corn Oil		8001-30-7	I	I	I	3	I	I	I
Cottonseed Oil		8001-29-4	I	I	I	3	I	I	I
Creosote-Coal Tar		8001-58-9	I	I	I	4	I	4	I
Cresol(Methyl Phenol)	CH ₃ C ₆ H ₄ OH	1319-77-3	I	I	I	4	4	4	2
Cresylic Acids		1319-77-3	I	I	I	4	4	4	2
Crotonaldehyde	CH ₃ CH:CHCHO	123-73-9	I						
Crotonic Acid	CH ₃ CH:CHCOOH	3724-65-0	I		4	2	4	4	4
Crude Oil (Asphalt Base)			I	I	I	4	2	4	2
Cumene	C ₆ H ₅ CH(CH ₃) ₂	98-82-8	I	3	I	4	4	4	2
Cumene Hydroperoxide	C ₆ H ₅ C(CH ₃) ₂ OOH	80-15-9	I						
Cuminic Aldehyde	(CH ₃) ₂ CHC ₆ H ₄ CHO	122-03-2	I						
Cupric Sulfate		7758-98-7	I	I	I	I	I		
Cutting Oil			I	I	I	4	I	4	I
Cyanamide	Hn:C:NH	420-04-2	I						
Cyanoacetic Acid	CNCH ₂ COOH	372-09-8	I						

I. LITTLE OR NO EFFECT (VOLUME SWELL <10%) 2. POSSIBLE LOSS OF PHYSICAL PROPERTIES (VOLUME SWELL 10-20%) 3. NOTICEABLE CHANGE (VOLUME SWELL 20-40%) 4. NOT SUITABLE FOR SERVICE - INSUFFICIENT DATA

The information presented is based on laboratory testing and does not necessarily indicate end product performance. It is recommended that users of PTM products conduct their own evaluations to determine suitability for the intended application.

CY-DI CHEMICAL

CHEMICAL NAME	FORMULA	CAS/Mfgr	Perfluoroelastomer	AFLAS®	VITON®	Ethylene Propylene	Nitrile Buna-N	Silicone	Fluorosilicone
Cyanogen Chloride	CNCl	506-77-4	1	3	2	3	4		
Cyanohydrin			1						
Cyanuric Chloride	C ₃ N ₃ Cl ₃	108-77-0	1						
Cyclohexane	C ₆ H ₁₂	110-87-7	1	2	1	4	1	4	1
Cyclohexanol	C ₆ H ₁₁ OH	108-93-0	1	1	1	4	1	4	1
Cyclohexanone	C ₆ H ₁₀ O	108-94-1	2	3	4	2	4	4	4
Cyclohexene	C ₆ H ₁₀	110-83-8	1						
Cyclohexylamine	C ₆ H ₁₁ NH ₂	108-91-8	1						
Cyclopentadiene	C ₅ H ₆	542-92-7	1						
Cyclopentane	C ₅ H ₁₀	287-92-3	1						
Cyclopropane	C ₃ H ₆	75-19-4	1						
p-Cymene	CH ₃ C ₆ H ₄ CH(CH ₃) ₂	99-87-6	1		1	4	4	4	2
2,4-D	Cl ₂ C ₆ H ₃ OCH ₂ COOH	94-75-7	1						
DDT(Dichlorodiphenyltrichloroethane)	(ClC ₆ H ₄) ₂ CHCCl ₃	50-29-3	1		1	4	4	4	1
Decahydronaphthalene	C ₁₀ H ₁₈	91-17-8	1		1	4	4	4	1
n-Decane	CH ₃ (CH ₂) ₈ CH ₃	124-18-5	1	1	1	4	1	2	1
Deionized Water	H ₂ O		1	2	1*	2	2		
DELCO Brake Fluid			1	1	4	1	3	3	4
Detergent Solutions			1	1	1	1	1	1	1
Developing Fluids			1	1	1	2	1	1	1
DEXTRON			1	1	1	4	1	4	2
Diacetone			1		4	1	4	4	4
Diacetone Alcohol (Diacetol)	CH ₃ COCH ₂ C(CH ₃) ₂ OH	123-42-2	1	4	4	1	4	4	4
Diallyl Phthalate (DAP)	C ₆ H ₄ (COOCH ₂ CH:CH ₂) ₂	131-17-9	1						
Diamylamine	(C ₅ H ₁₁) ₂ NH	2050-92-2	1						
DIAZINON	[C(CH ₃) ₂ CHC ₄ N ₂ H(CH ₃)O]PS(OC ₂ H ₅) ₂	333-41-5	1	4	2	4	3	4	2
Dibenzyl Ether	C ₆ H ₅ CH ₂ OCH ₂ C ₆ H ₅	103-50-4	1	3	4	2	4	-	-
Dibenzyl Sebacate	C ₆ H ₅ CH ₂ OOC(CH ₂) ₈ COOCH ₂ C ₆ H ₅		1	1	2	2	4	3	3
Diborane	B ₂ H ₆	19287-45-7	1						
Dibromodifluoromethane	CF ₂ Br ₂	75-61-6	1		-	2	4	4	?
Dibromoethylbenzene			1	4	1	4	4	4	2
Dibromotetrafluoroethane(FC 114B2)	(CBrF ₂) ₂		2*	4	2	4	2	4	?
Dibutyl Ether		142-96-1	1	4	3	3	4	4	?
Dibutyl tert-Peroxide	(CH ₃) ₃ COOC(CH ₃) ₃	110-05-4	1						
Dibutyl Phthalate (DBP)		84-74-2	1	2	2*	2	4	2	3
Dibutyl Sebacate		109-43-3	1	2	1*	2	4	2	2
n-Dibutylamine	(C ₄ H ₉) ₂ NH	111-92-2	1	2	4	4	4	3	?
Dicapryl Phthalate	(C ₈ H ₁₇ OOC) ₂ C ₆ H ₄		1		2	2	4	3	2
Dichloroacetic Acid	CHCl ₂ COOH	79-43-6	1						
3,4 Dichloroaniline	C ₆ H ₃ NH ₂ Cl ₂	95-76-1	1		3				
o-Dichlorobenzene	C ₆ H ₄ Cl ₂	95-50-1	1	4	1	4	4	4	2
p-Dichlorobenzene	C ₆ H ₄ Cl ₂	106-46-7	1	3	1	4	4	4	2
Dichlorobutane	ClCH ₂ (CH ₂) ₂ CH ₂ Cl	26761-81-9	1	1	1	4	2	4	2
Dichlorobutene	ClH ₂ CCH:CHCH ₂ Cl	764-41-0	1						
Dichlorodiethyl Sulfide	S(CH ₂ CH ₂ Cl) ₂		1		-	1	-	1	-
Dichlorodifluoromethane (FC 12)	CCl ₂ F ₂	75-71-8	2	4	2	2	1	4	?
Dichloroethylene	ClHC:CHCl	540-59-0	1		2				
Dichlorofluoroethane (FC 141b)	CFCl ₂ CH ₃		1						
Dichlorofluoromethane (FC 21)	CHCl ₂ F	75-43-4	1		4	4	4	4	?
Dichlorohydrin	CH ₂ ClCHOHCH ₂ Cl		1						
Dichloroisopropyl Ether	[ClCH ₂ C(CH ₃)H] ₂ O	108-60-1	1	3	3	3	4	4	?
Dichlorophenol	Cl ₂ C ₆ H ₃ OH	120-83-2	1						
Dichloropropene	CHCl:CHCH ₂ Cl	542-75-6	1						
Dichlorosilane		4109-96-0	1						
Dichlorofluoroethane (FC 114)	(CClF ₂) ₂	76-14-2	2*	4	1	1	1	4	?
Dichlorotrifluoroethane (FC 123)	CF ₃ CHCl ₂		1						
Dicyclohexylamine	(C ₆ H ₁₁) ₂ NH	101-83-7	1	3	4	4	3	-	?
Dieldrin (HEOD)	Cl ₂ H ₁₀ OC ₁₆	60-57-1	1						
Diesel Oil			1	1	1	4	1	4	?

DI-DO CHEMICAL

CHEMICAL NAME	FORMULA	CAS/Mfgr	Perfluoroelastomer	AFLAS®	VITON®	Ethylene Propylene	Nitrile Buna-N	Silicone	Fluorosilicone
Diester Lubricant (MIL-L-7808)			1	1	1	4	2	4	2
Diester Synthetic Lubricating Oils			1	1	1	4	2	4	2
Diethanolamine (DEA)	(HOCH ₂ CH ₂) ₂ NH	111-42-2	1						
Diethylamine	(C ₂ H ₅) ₂ NH	109-89-7	1	4	4	2	2	2	4
n,n-Diethylaniline	(C ₂ H ₅) ₂ NC ₆ H ₅	91-66-7	1						
Diethylbenzene	C ₆ H ₄ (C ₂ H ₅) ₂	25340-17-4	1	3	1	4	4	4	3
Diethyl Carbonate	(C ₂ H ₅) ₂ CO ₃	105-58-8	1						
Diethylene Glycol	CH ₂ OHCH ₂ OCH ₂ CH ₂ OH	111-46-6	1	1	2	1	1	2	1
Diethylene Glycol Butyl Ether	C ₄ H ₉ O(CH ₂) ₂ O(CH ₂) ₂ OH	112-34-5	1	2	3	1	4	4	4
Diethylene Glycol Methyl Ether	CH ₃ O(CH ₂) ₂ O(CH ₂) ₂ OH	111-77-3	1						
Diethylenetriamine	NH ₂ C ₂ H ₄ NHC ₂ H ₄ NH ₂	111-40-0	1						
Diethyl Ether			1	4	4	4	4	4	3
Diethylhexylamine	[C ₄ H ₉ CH(C ₂ H ₅)CH ₂] ₂ NH	20830-75-5	1						
Diethylhexyl Phthalate	C ₆ H ₄ [COOCH ₂ CH(C ₂ H ₅)C ₄ H ₉] ₂	117-81-7	1	2	2	2	4	3	2
Diethylhexyl Sebacate	C ₄ H ₈ COO(C ₈ H ₁₇) ₂	122-62-3	1	1	2	2	4	3	3
Diethyl Phthalate	C ₆ H ₄ (CO ₂ C ₂ H ₅) ₂	84-66-2	1						
Diethyl Sebacate		110-40-7	1	2	2	2	4	2	2
Diethyl Sulfate	(C ₂ H ₅) ₂ SO ₄	64-67-5	1	1	4	1	4		
Difluoroethane (FC 152a)	CH ₃ CHF ₂	75-37-6	1*		4	1	1	-	-
Diglycol Chloroformate	O((CH ₂) ₂ OCOCl) ₂		1						
Diglycolic Acid	O(CH ₂ COOH) ₂	110-99-6	1						
Dihydroxydiphenylsulfone	(C ₆ H ₄ OH) ₂ SO ₂	25641-61-6	1						
Diisobutylene		25167-70-8	1		1	4	2	4	3
Diisobutyl Ketone	(CH ₃) ₂ CHCH ₂ COCH ₂ CH(CH ₃) ₂	108-83-8	1		4	1	-	-	-
Diisooctyl Sebacate(DIOS)	C ₈ H ₁₇ OOC(CH ₂) ₈ COOC ₈ H ₁₇	117-81-7	1		2	3	3	3	3
Diisopropylbenzene	CH(CH ₃) ₂ (C ₆ H ₅)CH(CH ₃) ₂	25321-09-9	1		1	4	4	-	2
Diisopropyl Ketone	[(CH ₃) ₂ CH] ₂ CO	565-80-0	1		4	1	4	4	4
Diisopropylidene Acetone		504-20-1	1		4	3	4	4	4
Dimethyl Acetamide(DMAC)	CH ₃ CON(CH ₃) ₂	127-19-5	1						
Dimethylamine(DMA)	(CH ₃) ₂ NH	124-40-3	2		4				
Dimethylaniline	C ₆ H ₅ N(CH ₃) ₂	121-69-7	1		4	2	3	4	4
Dimethyl Ether	CH ₃ OCH ₃	115-10-6	1	4	4	4	4	1	1
Dimethylformamide(DMF)	HCON(CH ₃) ₂	68-12-2	1	3	4	2	3	2	4
Dimethyl Heptanol	[(CH ₃) ₂ CHCH ₂] ₂ CHOH		1						
Dimethyl Hydrazine	(CH ₃) ₂ NNH ₂	57-14-7	1						
Dimethyl Phthalate	C ₆ H ₄ (COOCH ₃) ₂	131-11-3	1	2	1*	2	4	-	2
Dimethyl Sulfoxide (DMSO)	(CH ₃) ₂ SO	67-68-5	1	2	4	1	3		
Dimethyl Terephthalate(DMT)	C ₆ H ₄ (COOCH ₃) ₂	120-61-6	1		2				
Dinitrotoluene(DNT)	C ₆ H ₃ CH ₃ (NO ₂) ₂	121-14-2	1	4	4	4	4	4	4
Dioxane	(O(CH ₂) ₂) ₂	123-91-1	1	4	4	2	4	4	3
Dioxolane	O(CH ₂) ₂ OCH ₂	646-06-0	1	4	4	2	4	4	4
Dipentene	C ₁₀ H ₁₆	138-86-3	1	3	1	4	2	4	3
Diphenyl	(C ₆ H ₅) ₂	92-52-4	1	3	1	4	4	4	2
Diphenylamine(DPA)	(C ₆ H ₅) ₂ NH	122-39-4	1						
Diphenylene Oxide	(C ₆ H ₅) ₂ O	38178-38-0	1						
sym-Diphenylethane	C ₆ H ₅ CH ₂ CH ₂ C ₆ H ₅		1						
Diphenyl Oxide	(C ₆ H ₅) ₂	101-84-8	1	2	1	4	4	3	2
Disilane	Si ₂ H ₆		1						
n-Dodecyl Mercaptan	C ₁₂ H ₂₅ SH		1						
Dodecylbenzene	C ₁₂ H ₂₅ C ₆ H ₅	123-01-3	1						
Dow Chemical 50-4, ET588		Dow chemical	2	4	4	1	3	-	4
Dow Chemical ET378		Dow chemical	2	3	3	3	4	4	-
Dow Corning 1208,4050,6620,F-60,Xf-60		Dow corning	1	1	1	1	1	1	
Dow Corning 3,4,11		Dow corning	1	1	1	1	1	3	1
Dow Corning 5,33,44,200,220,510,550,705,710		Dow corning	1	1	1	1	1	3	2
Dow Corning 55		Dow corning	1	1	1	1	1	3	2
Dow Corning F-61		Dow corning	1	1	1	1	1		
DOW GUARD			1	1	1	1	1	1	1
DOWTHERM 209		107-98-2	1	1	3	1	3	3	3

1. LITTLE OR NO EFFECT (VOLUME SWELL <10%) 2. POSSIBLE LOSS OF PHYSICAL PROPERTIES (VOLUME SWELL 10-20%) 3. NOTICEABLE CHANGE (VOLUME SWELL 20-40%) 4. NOT SUITABLE FOR SERVICE - INSUFFICIENT DATA

The information presented is based on laboratory testing and does not necessarily indicate end product performance. It is recommended that users of PTM products conduct their own evaluations to determine suitability for the intended application.

DO-ET CHEMICAL

CHEMICAL NAME	FORMULA	CAS/Mfgr	Perfluoroelastomer	AFLAS®	VITON®	Ethylene Propylene	Nitrile Buna-N	Silicone	Fluorosilicone
DOWTHERM A		8004-13-5	1	2	1	4	4	4	2
DOWTHERM E		Dow corning	1	1	1	4	4	4	2
Drinking Water	H ₂ O		1	1	1	1	1	1	1
Dry Cleaning Fluids			2	3	1	4	3	4	2
DTE Light Oil			1	1	1	4	1	3	1
ELCO 28 EP Lubricant			1	1	1	4	1	2	1
Epichlorohydrin	CH ₂ OCHCH ₂ Cl	106-89-8	2	4	4	2	4	4	4
Epoxy Resins			1	2	4	1	3	-	-
Erucic Acid	C ₈ H ₁₇ CH:CH(CH ₂) ₁₁ COOH	112-86-7	1						
Esam-6 Fluid			1	4	4	1	4	-	4
ESSO Fuel 208			1	1	1	4	1	4	1
ESSO Golden Gasoline			1	3	1	4	2	4	1
ESSO Motor Oil			1	1	1	4	1	4	1
ESSO Transmission Fluid, type A			1	1	1	4	1	4	1
ESSO WS2812(MIL-L-7808A)			1	1	1	4	1	4	1
ESSO XP90-EP Lubricant			1	1	1	4	1	4	1
ESSTIC 42,43			1	1	1	4	1	4	1
Ethane	C ₂ H ₆	74-84-0	1		1	4	1	4	2
Ethanethiol	C ₂ H ₅ SH	75-08-1	1		2	3	4	3	-
Ethanolamine(MEA)	HO(CH ₂) ₂ NH ₂	141-43-5	1		4	2	4	2	4
Ether			1	4	4	4	4	4	3
Ethyl Acetate	CH ₃ COOC ₂ H ₅	141-78-6	1	4	4	2	4	2	4
Ethyl Acetoacetate	CH ₃ COCH ₂ COOC ₂ H ₅	141-97-9	1		4	2	4	2	4
Ethyl Acrylate	CH ₂ :CHCOOCH ₂ H ₅	140-88-5	1	3	4	2	4	2	4
Ethyl Alcohol (Ethanol)	C ₂ H ₅ OH	64-17-5	1	1	3	1	1	1	1
Ethyl Aluminium Dichloride	C ₂ H ₅ AlCl ₂	563-43-9	1						
Ethylamine	CH ₃ CH ₂ NH ₂	75-04-7	1		4				
Ethyl Benzene	C ₆ H ₅ C ₂ H ₅	100-41-4	1	3	1	4	4	4	1
Ethyl Benzoate	C ₆ H ₅ CO ₂ C ₂ H ₅	93-89-0	1	3	1	4	4	4	1
Ethyl Bromide	C ₂ H ₅ Br	74-96-4	1	1	1	4	2	-	1
Ethyl Butyrate	C ₃ H ₇ CO ₂ C ₂ H ₅	105-54-4	1						
Ethyl Cellulose		9004-57-3	1		4	2	2	3	4
Ethyl Chloride	C ₂ H ₅ Cl	75-00-3	1	2	1	3	1	4	1
Ethyl Chlorocarbonate	ClCOOC ₂ H ₅	541-41-3	1	2	1	4	4	4	2
Ethyl Cyanide	C ₂ H ₅ CN	107-12-0	1	1	1	4	1		
Ethylcyclopentane	C ₂ H ₅ C ₅ H ₉		1	2	1	4	1	4	1
Ethyl Dibromide			1	2	1	3	4		
Ethyl Dichloride			1	1	1	3	4		
Ethylene	H ₂ C:CH ₂	74-85-1	1		1	2	1	-	1
Ethylene Chloride		107-06-2	1		2	4	4	4	2
Ethylene Chlorohydrin	ClCH ₂ CH ₂ OH	107-07-3	1	1	1	2	4	3	2
Ethylene Cyanohydrin	HOCH ₂ CH ₂ CN	109-78-4	1						
Ethylenediamine	NH ₂ (CH ₂) ₂ NH ₂	107-15-3	2	2	4	1	1	1	4
Ethylene Dibromide	BrCH ₂ CH ₂ Br	106-93-4	1		1	3	4	4	3
Ethylene Dichloride	ClCH ₂ CH ₂ Cl	107-06-2	1		1	3	4	4	3
Ethylene Glycol	(CH ₂ OH) ₂	107-21-1	1	1	1	1	1	1	1
Ethylene Glycol Butyl Ether	HO(CH ₂) ₂ OC ₄ H ₉	111-76-2	1	3	4	2	3	-	4
Ethylene Glycol Butyl Ether Acetate	C ₄ H ₉ C(CH ₂) ₂ OOCCH ₃		1	2	2	2	4	2	2
Ethylene Glycol Butyl Ether Acetate (EGMEEA)	CH ₃ COO(CH ₂) ₂ OC ₂ H ₅	111-15-9	1	3	4	2	4	4	4
Ethylene Oxide	CH ₂ OCH ₂	75-21-8	1	4	4	4	4	4	4
Ethylene Trichloride		79-01-6	1	4	1	3	4	4	3
Ethyl Ether	(C ₂ H ₅) ₂ O	60-29-7	1	4	4	3	4	4	3
Ethylethoxy-3-Propionate (EEP)	C ₂ H ₅ OOC(CH ₂) ₂ OC ₂ H ₅		1						
Ethyl Formate	HCOOC ₂ H ₅	109-94-4	2	1	1	2	4	-	1
Ethyl Hexanol			1		1	1	1	2	1
Ethyl Isovalerate	(CH ₃) ₂ CHCH ₂ COOC ₂ H ₅	108-64-5	1						
Ethyl Lactate (EL)	CH ₃ CHOHCOOC ₂ H ₅	97-64-3	1						
Ethyl Mercaptan		75-08-1	1		2	-	4	3	-
Ethylmorpholine	(CH ₂) ₂ O(CH ₂) ₂ NCH ₂ CH ₃	100-74-3	1						

FT-FE CHEMICAL

CHEMICAL NAME	FORMULA	CAS/Mfgr	Perfluoroelastomer	AFLAS®	VITON®	Ethylene Propylene	Nitrile Buna-N	Silicone	Fluorosilicone
Ethyl Nitrite	C ₂ H ₅ NO ₃	625-58-1	1						
Ethyl Oxalate	(COOC ₂ H ₅) ₂	95-92-1	1			1	1	4	4 2
Ethyl Pentachlorobenzene			1			1	4	4	4 2
Ethyl Silicate (TEOS)	(C ₂ H ₅) ₄ SiO ₄	78-10-4	1			1	1	1	4 1
Ethylsulfuric Acid	C ₂ H ₅ HSO ₄	540-82-9	1						
Ethyl Tertiary Butyl Ether			1	2	2	3	3		
Ethylhexyl Acrylate	CH ₂ :CHCOOCH ₂ CH(C ₂ H ₅)C ₄ H ₉	103-11-7	1						
Ethylmorpholinestannous Octotate (50/50 mixture)			1		4	2	4	-	-
Fatty Acids			1	1	1	3	2	3	-
F 60 Fluid		25085-50-1	1	1	1	1	1	4	1
F 61 Fluid		Dow corning	1	1	1	1	1	4	1
FC 11 (CFC)(Trichlorofluoromethane)	CFCl ₃	75-69-4	2	4	2	4	2	4	2
FC 12 (CFC)(Dichlorodifluoromethane)	CCl ₂ F ₂	75-71-8	2	4	2	2	1	4	4
FC 13 (CFC)(Chlorotrifluoromethane)	CClF ₃	75-72-9	2		1	1	1	4	4
FC 13B1 (FC)(Bromotrifluoromethane)	CBrF ₃	75-63-8	2		2	1	1	4	2
FC 14 (FC)(Tetrafluoromethane)	CF ₄	75-73-0	1		1	1	1	4	-
FC 21 (CFC)(Dichlorofluoromethane)	CHCl ₂ F	75-43-4	1		4	4	4	4	-
FC 22 (HCFC)(Chlorodifluoromethane)	CHClF ₂	74-97-5	1		4	2	4	4	3
FC 23 (HFC)(Fluoroform)	CHF ₃	75-46-7	1						
FC 31		593-70-4	2		4	1	4	-	-
FC 32		75-10-5	1*	4	4	1	1	-	-
FC 43 (Heptacosofluorotributylamine)			4	3	1	1	1	1	1
FC 75			4	3	2	1	1	1	2
FC 112		76-12-0	1*	4	1	4	2	4	2
FC 113 (CFC)(Trichlorotrifluoroethane)	CCl ₂ FCClF ₂	76-13-1	2*	4	2	4	2	4	4
FC 114 (CFC)(Dichlorotetrafluoroethane)	(CClF ₂) ₂	76-14-2	2*	4	1	1	1	4	2
FC 114B2 (Dibromotetrafluoroethane)	(CBrF ₂) ₂	124-73-2	2*	4	2	4	2	4	-
FC 115 (CFC)(Chloropentafluoroethane)	CClF ₂ CF ₃	76-15-3	2*	4	2	1	1	-	-
FC 116 (FC)(Hexafluoroethane)	C ₂ F ₆	76-16-4	2		2	1	1	-	-
FC 123 (HCFC)(Dichlorotrifluoroethane)	CF ₃ CHCl ₂		1						
FC 124 (CFC)(Chlorotetrafluoroethane)	C ₂ CF ₄ Cl		2						
FC 125 (HFC)(Pentafluoroethane)	C ₂ HF ₅		2						
FC 134a (HFC)(1,1,1,2-Tetrafluoroethane)	CF ₃ CH ₂ F		1						
FC 141b (HCFC)(Dichlorofluoroethane)	CFCl ₂ CH ₃		1						
FC 142b (HCFC)(Difluoroethane)	CF ₂ ClCH ₃	75-68-3	2*	4	2	4	2	-	-
FC 143a (HFC)(1,1,1-Trifluoroethane)			1	2	1	4	4	4	2
FC 152a (HCFC)(Difluoroethane)	CH ₃ CHF ₂	75-37-6	1*		4	1	1	-	-
FC 152b			2						
FC 218		76-19-7	2		1	1	1	-	-
FC 502		39432-81-0	2		2	1	2	-	-
FC BF		37380-64-6	2		1	4	2	4	-
FC C316			2		1	1	1	-	-
FC C318 (Octafluoro-tetraethylene)		115-25-3	2*	4	2	1	1	-	-
FC PCA			3	4	2	4	1	4	-
FC TA		58481-78-0	2		3	2	1	3	-
FC TC		58481-77-9	2		1	2	1	4	-
FC TMC		57762-31-9	2		1	3	2	3	-
FC T-P35			2		1	1	1	1	-
FC T-WD602			2		1	2	2	4	-
Ferric Acetate	Fe(C ₂ H ₃ O ₂) ₂ OH	10450-55-2	1						
Ferric Ammonium Sulfate	FeNH ₄ (SO ₄) ₂	10138-04-2	1						
Ferric Chloride	FeCl ₃	7705-08-0	1	1	1	1	1	2	1
Ferric Hydroxide	Fe(OH) ₃	20344-49-4	1						
Ferric Nitrate	Fe(NO ₃) ₃	10421-48-4	1	1	1	1	1	3	1
Ferric Sulfate	Fe ₂ (SO ₄) ₃	10028-22-5	1	1	1	1	1	2	1
Ferrous Ammonium Sulfate	Fe(SO ₄):(NH ₄) ₂ SO ₄	10045-89-3	1						
Ferrous Chloride	FeCl ₂	7758-95-3	1						
Ferrous Iodide	FeI ₂	7783-86-0	1						
Ferrous Sulfate	FeSO ₄	7720-78-7	1						

1. LITTLE OR NO EFFECT (VOLUME SWELL <10%) 2. POSSIBLE LOSS OF PHYSICAL PROPERTIES (VOLUME SWELL 10-20%) 3. NOTICEABLE CHANGE (VOLUME SWELL 20-40%) 4. NOT SUITABLE FOR SERVICE - INSUFFICIENT DATA

The information presented is based on laboratory testing and does not necessarily indicate end product performance. It is recommended that users of PTM products conduct their own evaluations to determine suitability for the intended application.

CHEMICAL NAME	FORMULA	CAS/Mfgr	Perfluoroelastomer	AFLAS®	VITON®	Ethylene Propylene	Nitrile Buna-N	Silicone	Fluorosilicone
Fish Oil			1		1	4	1	1	1
Fluoboric Acid	HBF ₄	16872-11-0	1		1	1	1		
Fluorine	F	7782-41-4	2		2	4		4	
FLUORINERT (FC 70)		338-84-1	2		1				
Fluorobenzene	C ₆ H ₅ F	462-06-6	1		1	4	4	4	2
Fluoroform (FC 23)	CHF ₃	75-46-7	1						
FLUOROLUBE			2	2	2	1	1	1	2
Fluorophosphoric Acid, Anhydrous	H ₂ PO ₃ F	1353732-1	1						
Fluosilicic Acid	H ₂ SiF ₆	16961-83-4	1	1	2	2	1	4	4
Fluosulfonic Acid	HSO ₃ F	7789-21-1	1						
FOMBLIN		Ausimont	1*		1				
Formaldehyde	HCHO	50-00-0	2	4	1*	2	3	2	4
Formamide	HCONH ₂	75-12-7	1	2	3	1	3		
Formic Acid (88%)	HCOOH	64-18-6	2	3	4	1	2	2	3
Fuel Oil			1	1	1	4	1	4	1
Fumaric Acid		110-17-8	1	1	1	2	1	2	1
Furaldehyde		98-01-1	2	4	4	2	4		
Furan	HC:CHCH:CHO	110-00-9	1	4	4	4	4	-	-
Furfural	C ₄ H ₃ OCHO	98-01-1	1	4	4	2	4	4	-
Furfuraldehyde			2	4	4	2	4	4	-
Furfuryl Alcohol	C ₄ H ₃ OCH ₂ OH	98-00-0	1	2	1*	2	4	4	?
Furoic Acid	C ₄ H ₃ OCOOH	88-14-2	1						
Furyl Carbinol			1	2	4	2	4	4	?
FYRQUEL 90,100,150,220,300,500,550			1	1	1	1	4	1	3
FYRQUEL A60			1	2	4	2	4	1	3
GALDEN		Ausimont	4	2	1	-	-	-	-
Gallic Acid	C ₆ H ₂ (OH) ₃ CO ₂ H	149-91-7	1	1	1	2	2	-	?
Gasoline		8006-61-9	1	2	1	4	1	4	?
Germanium Tetrahydride	GeH ₄	7782-65-2	1						
Glauber's Salt			1	1	1	2	4	-	?
Gluconic Acid	CH ₂ OH(CHOH) ₄ COOH	526-95-4	1						
Glucose		60-99-7	1	1	1	1	1	1	?
Glutamic Acid	COOH(CH ₂) ₂ CH(NH ₂)COOH	56-86-0	1						
Glycerol	CH ₂ OHCHOHCH ₂ OH	56-81-5	1	1	1	1	1	1	?
Glycerophosphoric Acid	C ₃ H ₅ (OH) ₂ H ₂ PO ₄	57-03-4	1						
Glycidol	CH ₂ OHCHOCH ₂	556-52-5	1						
Glycols			1	1	1	1	1	1	?
Green Sulface Liquor		68131-30-6	2	1	1	1	2	1	?
GULF ENDURANCE OILS		Gulf	1	1	1	4	1	4	?
HALOTHANE(Bromodotrifluoroethane)	CF ₃ CHBrCl	151-67-7	2	1	1	4	4	4	?
HALOWAX OIL		58718-66-4	2	1	1	4	4	4	?
Heavy Water			1	1	2	1	1	1	?
HEF-2(Trialkyl Pentaborane)			1	1	1	4	2	4	?
Helium	He	7440-59-7	1	1	1	1	1	1	?
Heptachlor	C ₁₀ H ₇ Cl ₇	76-44-8	1						
Heptanal	C ₆ H ₁₃ CHO	111-71-7	1						
n-Heptane	CH ₃ (CH ₂) ₅ CH ₃	142-82-5	1	3	1	4	1	4	?
Heptanoic Acid	CH ₃ (CH ₂) ₅ COOH	111-14-8	1						
Hexachloroacetone	Cl ₃ CCOCCl ₃	116-16-5	1	4	4	1	4	-	?
Hexachlorobutadiene	Cl ₂ C:CClCCl:CCl ₂	87-68-3	1						
Hexachloroethane	Cl ₃ CCCl ₃	67-72-1	1						
n-Hexadecane (cetane)	C ₁₆ H ₃₄	554-76-3	1	1	1	4	1	4	?
Hexaethyl Tetraphosphate (HETP)		757-58-4	1						
Hexafluoroethane (FC 116)	C ₂ F ₆	76-16-4	2		2	1	1		?
n-Hexaldehyde	CH ₃ (CH ₂) ₄ CHO	66-25-1	1		4	1	4	2	?
Hexamethyldisilazane(HMDS)	(CH ₃) ₃ SiNHSi(CH ₃) ₃	999-97-3	1						
Hexamethylenediamine	H ₂ N(CH ₂) ₆ NH ₂	124-09-4	2						
Hexamethylenetetramine	(CH ₂) ₆ N ₄	100-97-0	2						
n-Hexane	CH ₃ (CH ₂) ₄ CH ₃	100-54-3	1	2	1	4	1	4	?

HF-1S CHEMICAL

CHEMICAL NAME	FORMULA	CAS/Mfgr	Perfluoroelastomer		Ethylene Propylene		Nitrile Buna-N		Fluorosilicone	
			AFLAS®	VITON®			Silicone	Fluorosilicone		
I-Hexane	CH ₃ (CH ₂) ₃ CH:CH ₂	592-41-6	1	3	1	4	2	4	1	
Hexyl Acetate	CH ₃ COOC ₆ H ₁₃	142-92-7	1							
Hexyl Alcohol	CH ₃ (CH ₂) ₄ CH ₂ OH	111-27-3	1		1	3	1	2	2	
Hexylene Glycol	(CH ₃) ₂ COHCH ₂ CHOHCH ₃	107-41-5	1							
Hexylresorcinol	C ₆ H ₁₃ C ₆ H ₁₃ (OH) ₂	136-77-6	1							
High Viscosity Lubricant H2			1	1	1	1	1	1	2	
High Viscosity Lubricant U4			1	1	1	1	1	1	2	
Hydrolic Oils(petroleum, aircraft)			1	1	1	4	1	2	1	
Hydraulic Oils (synthetic basse)			1							
Hydrazine	H ₂ NNH ₂	302-01-2	2	1	4	1	2	3	4	
Hydrazine Fihydrochloride	N ₂ H ₄ :2 HCl	5341-61-7	1							
Hydrazine Hydrate	NH ₂ NNH ₂ :HOH	7803-57-8	1							
Hydriodic Acid	HI	10034-85-2	1							
Hydrobromic Acid	HBr	10035-10-6	1	1	1	1	4	4	3	
Hydrochloric Acid (37%)(hot)	HCl	7647-01-0	1	1	1	3	4	3	2	
Hydrochloric Acid, Conc	HCl	7647-01-0	1		1	2	2	4	3	
Hydrocyanic Acid	HCN	74-90-8	1	1	1	1	2	3	2	
Hydrofluoric Acid (49%)	HF	7664-39-3	1		1*	4	4	4	4	
Hydrofluoric Acid, Anhydrous	HF	7664-39-3	1		1*	3	4	4	4	
Hydrofluoric Acid, Conc.(hot)	HF	7664-39-3	1		3	4	4	4	4	
Hydrofluosilicic Acid		56977-47-0	1	1	1	1	2	4	4	
Hydrogen	H ₂	1333-74-0	1		1	1	1	3	3	
Hydrogen Bromide, Anhydrous	HBr	10035-10-6	1							
Hydrogen Chloride, Anhydrous	HCl	7647-01-0	1	1	1	1	4			
Hydrogen Fluoride, Anhydrous	HF	7664-39-3	2		4	2		4		
Hydrogen Iodide, Anhydrous	HI	10034-85-2	1							
Hydrogen Peroxide(36%)	H ₂ O ₂	7722-84-1	1	1	1	1	2	2	2	
Hydrogen Selenide	H ₂ Se	7783-07-5	1							
Hydrogen Sulfide	H ₂ S	7783-06-4	1	1	4	1	1	3	3	
HYDROLUBE			1	1	1	1	1	2	2	
Hydroquinone	C ₆ H ₄ (OH) ₂	123-31-9	2	3	2	4	3	2	2	
HydroxyaceticAcid	CH ₂ OHCOOH	79-14-1	1							
Hydroxycitronellal	(CH ₃) ₂ C(OH)(CH ₂) ₃ CH(CH ₃)CH ₂ CHO	107-75-5	1							
Hydroxyethylenediamine	NH ₂ (CH ₂) ₂ NH(CH ₂) ₂ OH	111-41-1	1							
Hydyne			2		4	1	2	4	4	
HYJET			1	2	4	1	4	4	4	
Hypochlorous Acid	HOCl	7790-92-3	1		1	2	4	-	-	
Indole		120-72-9	1							
INDUSTRON			1	1	1	4	1	4	1	
Iodic Acid	HIO ₃	7782-68-5	1							
Iodine	I	7553-56-2	1	1	1	2	2	-	1	
Iodine pentafluoride	IF ₅	7783-66-6	2	4	4	4	4	4	4	
Iodoform	CHI ₃	75-47-8	1							
Isoamyl Acetate	CH ₃ COOCH ₂ CH ₂ CH(CH ₃) ₂	123-92-2	1							
Isoamyl Butyrate	C ₅ H ₁₁ OOC ₃ H ₇	106-27-4	1							
Isoamyl Valerate	C ₄ H ₉ CO ₂ C ₅ H ₁₁	2050-09-1	1							
Isobutane	(CH ₃) ₂ CHCH ₃	75-28-5	1							
Isobutene	(CH ₃) ₂ C:CH ₂	115-11-7	1							
Isobutyl Acetate	C ₄ H ₉ OOCCH ₃	110-19-0	1							
Isobutyl Acrylate	C ₄ H ₉ OOCCH ₃	106-63-8	1							
Isobutyl Alcohol	(CH ₃) ₂ CHCH ₂ OH	78-83-1	1	1	1	1	2	1	2	
Isobutyl n-Butyrate			1	1	1	1	4	-	1	
Isobutyraldehyde	(CH ₃) ₂ CHCHO	78-84-2	2	4	4	2	3			
Isobutyl Chloride			1	4	1	4	4			
Isobutyl Ether			1	4	4	4	2			
Isobutyric Acid	(CH ₃) ₂ CHCOOH	79-31-2	1	3	4	2	2			
Isodecanol	C ₁₀ H ₂₁ OH	25339-17-7	1							
Isododecane		31807-55-3	1	1	1	4	1	4	1	
Isoeugenol	(CH ₃ CHCH)C ₆ H ₃ OHOCH ₃	97-54-1	1							

1. LITTLE OR NO EFFECT (VOLUME SWELL <10%) 2. POSSIBLE LOSS OF PHYSICAL PROPERTIES (VOLUME SWELL 10-20%) 3. NOTICEABLE CHANGE (VOLUME SWELL 20-40%) 4. NOT SUITABLE FOR SERVICE - INSUFFICIENT DATA

The information presented is based on laboratory testing and does not necessarily indicate end product performance. It is recommended that users of PTM products conduct their own evaluations to determine suitability for the intended application.

CHEMICAL NAME	FORMULA	CAS/Mfgr	Perfluoroelastomer	AFLAS®	VITON®	Ethylene Propylene	Nitrile Buna-N	Silicone	Fluorosilicone
Isooctane	(CH ₃) ₃ CCH ₂ CH(CH ₃) ₂	540-84-1	1		1	4	1	4	1
Isopentane	(CH ₃) ₂ CHCH ₂ CH ₃	78-78-4	1						
Isophorone		78-59-1	1	2	4	1	4	4	4
Isopropyl Acetate	CH ₃ COOCH(CH ₃) ₂	108-21-4	1	4	4	1	4	4	4
Isopropyl Alcohol(IPA)	(CH ₃) ₂ CHOH	6763-0	1	1	1	1	2	1	2
Isopropylamine	(CH ₃) ₂ CHNH ₂	75-31-0	1						
Isopropyl Chloride	CH ₃ CHClCH ₃	785-29-6	1	4	1	4	4	4	2
Isopropyl Ether	(CH ₃) ₂ CHOCH(CH ₃) ₂	108-20-3	1	4	4	4	2	4	3
Isovaleric Acid	(CH ₃) ₂ CHCH ₂ COOH	503-74-2	1						
JIS LUBE Oil #1			1						
JP-3 (MIL-T-5624)			1	2	1	4	1		
JP-4 (MIL-T-5624)			1	2	1	4	1	4	2
JP-5 (MIL-T-5624)			1	2	1	4	1	4	2
JP-6 (MIL-F-25656)			1	2	1	4	1	4	2
JP-8 (MIL-T-83133)			1	2	1	4	4	4	2
JP-9 (MIL-F-81912)			1		1	4	3	4	2
JP-10			1		1	4	3	4	1
JPX (MIL-F-25604)			1	2	4	4	1		
KEL-F Liquids			3	3	2	1	1	1	2
Kerosene		8008-20-6	1	2	1	4	1	4	1
Lacquer Solvents			1	4	4	4	4	4	4
Lacquers			1	4	4	4	4	4	4
Lactams (Amino Acids)			1	3	4	2	4	-	4
Lactic Acid (cold)	CH ₃ CHOHCOOH	50-21-5	1		1	1	1	1	1
Lactic Acid (hot)	CH ₃ CHOHCOOH	50-21-5	1		1	4	4	2	2
Lard (animal fats)			1	1	1	2	1	2	1
Lauric Acid	CH ₃ (CH ₂) ₁₀ COOH	143-07-7	1						
Lavender Oil		8000-28-0	1	1	1	4	2	4	2
Lead Acetate	Pb(C ₂ H ₃ O ₂) ₂	301-04-2	1	4	4	1	2	4	4
Lead Arsenate	Pb ₃ (AsO ₄) ₂	7784-40-9	1						
Lead Azide	Pb(N ₃) ₂	13424-46-9	1						
Lead Bromide	PbBr ₂	10031-22-8	1						
Lead Carbonate	2PbCO ₃ :Pb(OH) ₂	598-63-0	1						
Lead Chloride	PbCl ₂	7758-95-4	1						
Lead Chromate	PbCrO ₄	7758-97-6	1						
Lead Dioxide	PbO ₂	1309-60-0	1						
Lead Linoleate	Pb(C ₁₈ H ₃₁ O ₂) ₂	16996-51-3	1						
Lead Naphthenate	C ₇ H ₁₂ O ₂ :x Pb	61790-14-5	1						
Lead Nitrate	Pb(NO ₃) ₂	10099-74-8	1	2	1	1	1	2	1
Lead Oxide, Red	Pb ₃ O ₄	1314-41-6	1	1	1	1	1		
Ligroin		8032-32-4	1	2	1	4	1	4	1
Lime Bleach			1	1	1	1	1	2	1
Lime-Sulfur Solution		1344-81-6	1		1	1	4	1	1
LINDOL Hydraulic Fluid		1330-78-5	1	1	2	1	4	3	3
Linoleic Acid		60-33-3	1	1	2	4	2	2	-
Linseed Oil		8001-26-1	1	1	1	3	1	1	1
Liquid Oxygen			2*	4	4	4	4	4	4
Liquified Petroleum Gas(LPG)			1	2	1	4	1	3	3
Liquor			1	1	1	1	1		
Lithium Bromide, Brine	LiBr	7550-35-8	1						
Lithium Carbonate	Li ₂ CO ₃	55-4-13-2	1						
Lithium Chloride	LiCl	7447-41-8	1						
Lithium Citrate	Li ₃ C ₆ H ₅ O ₇	919-16-4	1						
Lithium Hydroxide	LiOH	1310-65-2	1	1	3	1	2		
Lithium Hypochlorite	LiOCl	13840-33-0	1						
Lithium Nitrate	LiNO ₃	7790-69-4	1						
Lithopone		1345-05-7	1						
Lubricating Oils, Diester			1	2	1	4	2	4	2
Lubricating Oils, Petroleum			1	1	1	4	1	4	1

IY-ME CHEMICAL

CHEMICAL NAME	FORMULA	CAS/Mfgr	Perfluoroelastomer	AFLAS®	VITON®	Ethylene Propylene	Nitrile Buna-N	Silicone	Fluorosilicone
Lye			1	1	2	1	2	2	2
Magnesium Chloride	MgCl ₂	7786-30-3	1	1	1	1	1	1	1
Magnesium Hydroxide	Mg(OH) ₂	1309-42-8	1	1	2	1	2	-	-
Magnesium Salts			1	1	1	1	1	1	1
Magnesium Sulfate	MgSO ₄	7587-88-9	1		1	1	1	1	1
Magnesium Sulfite	MgSO ₃ ·6 HOH	77570-88-2	1		1	1	1	1	1
MALATHION		121-75-5	1		1	4	2	4	2
Maleic Acid	(HCCOOH) ₂	110-16-7	1	1	1	4	4	-	-
Maleic Anhydride	COCO(CH) ₂ O	108-31-6	1	1	1	4	4	-	-
Maleic Hydrazide	HCCHC(O)NHNHCO		1						
Malic Acid	COOHCH ₂ CH(OH)COOH	6915-15-7	1	1	1	4	1	2	1
Mandelic Acid	C ₆ H ₅ CHOHCOOH	90-64-2	1						
Manganese Acetate	Mn(C ₂ H ₃ O ₂) ₂ ·4 HOH	638-38-0	1						
Manganese Carbonate	MnCO ₃	598-62-9	1						
Manganese Dioxide	MnO ₂	1313-13-9	1						
Manganese Gluconate	Mn(C ₆ H ₁₁ O ₇) ₂ ·2 HOH	6485-39-8	1						
Manganese Hypophosphite	Mn(H ₂ PO ₂) ₂ ·HOH	10043-84-2	1						
Manganese Linoleate	Mn(C ₁₈ H ₃₁ O ₂) ₂	6904-78-5	1						
Manganous Chloride	MnCl ₂	7773-01-5	1						
Manganous Phosphate	Mn ₃ (PO ₄) ₂ ·7 HOH		1						
Manganous Sulfate, Aqueous	MnSO ₄ ·4 HOH	7785-87-7	1						
Mannitol	C ₆ H ₈ (OH) ₆	69-65-8	1						
MEA (ethanolamine)	HO(CH ₂) ₂ NH ₂	141-43-5	1		4	2	4	2	4
Mercaptobenzothiazole(MBT)	CCHCHCHCHCCSC(SN)N	149-30-4	1	1	1	1	3		
Mercuric Acetate	Hg(C ₂ H ₃ O ₂) ₂	1600-27-7	1						
Mercuric Chloride	HgCl ₂	7487-94-7	1	1	1	1	1	-	-
Mercuric Cyanide	Hg(CN) ₂	592-04-1	1						
Mercuric Iodide	HgI ₂	7774-29-0	1						
Mercuric Nitrate	Hg(NO ₃) ₂	10045-94-0	1						
Mercuric Sulfate	HgSO ₄	7783-35-9	1						
Mercurios Nitrate, Hydrated	HgNO ₃ ·2 HOH	10415-75-5	1						
Mercury	Hg	7439-97-6	1	1	1	1	1	-	-
Mercury Fulminate	Hg(CNO) ₂	628-86-4	1						
Mercury Vapor	Hg	7439-97-6	1	1	1	1	1	-	-
Mesityl Oxide	(CH ₃) ₂ :CHCOOCH ₃	141-79-7	1	4	4	2	4	4	4
Metaldehyde	(CH ₃ CHO) ₅	9002-91-9	1						
Methacrylic Acid	H ₂ C:C(CH ₃)COOH	79-41-4	1	2	3	2	3	4	4
Methane	CH ₄	74-82-8	1	2	1	4	1	4	2
Methanethiol	CH ₃ SH	74-93-1	1						
Methoxychlor	Cl ₃ CCH(C ₆ H ₄ OCH ₃) ₂	72-43-5	1						
Methyl Abietate	C ₁₉ H ₂₉ COOCH ₃	127-25-3	1						
Methyl Acetate	CH ₃ CO ₂ CH ₃	79-20-9	1	4	4	2	4	4	4
Methyl Acetoacetate	CH ₃ COCH ₂ CO ₂ CH ₃	105-45-3	1	4	4	2	4	2	4
Methylacetophenone	CH ₃ C ₆ H ₄ COCH ₃		1						
Methyl Acrylate	CH ₂ :CHCOOCH ₃	96-33-3	1	4	4	2	4	4	4
Methylal	CH ₃ OCH ₂ OCH ₃	109-87-5	1						
Methyl Alcohol (methanol)	CH ₃ OH	67-56-1	1	1	2*	1	1	1	1
Methylallyl Chloride	CH ₂ :C(CH ₃)CH ₂ Cl		1						
Methylamine	CH ₃ NH ₂	74-89-5	1						
Methylamyl Acetate	CH ₃ COOCH(CH ₃)CH ₂ CH(CH ₃) ₂	108-84-9	1						
Methylamyl Alcohol	(CH ₃) ₂ CHCH ₂ CH(CH ₃)OH	108-11-2	1						
Methyl n Amylketone	CH ₃ (CH ₂) ₄ CHOHCH ₃	543-49-7	1						
Methyl Anthranilate	H ₂ NC ₆ H ₄ CO ₂ CH ₃	134-20-3	1						
Methyl Benzoate	C ₆ H ₅ COOCH ₃	93-58-3	1	2	1	4	4	4	1
Methylbenzyl Alcohol	C ₆ H ₅ CH(CH ₃)OH	589-18-4	1						
Methyl Bromide	CH ₃ Br	74-83-9	1	2	1	4	2	-	1
2-Methyl 2-Butanethiol	(CH ₃) ₂ CSH(C ₂ H) ₅		1	1	1	4	4	4	-
Methyl Butyl Ketone	CH ₃ COC ₄ H ₉	591-78-6	1	4	4	1	4	4	4
Methyl Carbonate	CO(OCH ₃) ₂	616-38-6	1	2	1	4	4	4	2

1. LITTLE OR NO EFFECT (VOLUME SWELL <10%) 2. POSSIBLE LOSS OF PHYSICAL PROPERTIES (VOLUME SWELL 10-20%) 3. NOTICEABLE CHANGE (VOLUME SWELL 20-40%) 4. NOT SUITABLE FOR SERVICE - INSUFFICIENT DATA

The information presented is based on laboratory testing and does not necessarily indicate end product performance. It is recommended that users of PTM products conduct their own evaluations to determine suitability for the intended application.

MEMO CHEMICAL

CHEMICAL NAME	FORMULA	CAS/Mfgr	Perfluoroelastomer	AFLAS®	VITON®	Ethylene Propylene	Nitrile Buna-N	Silicone	Fluorosilicone
Methyl CELLOSOLVE		109-86-4	1	1	4	2	3	4	4
Methyl Cellulose		9004-67-5	1	1	4	2	2	2	4
Methyl Chloride	CH ₃ Cl	74-87-3	1	4	2	3	4	4	2
Methyl Chloroacetate	ClCH ₂ COOCH ₃	96-34-4	1						
Methyl Chloroform		71-55-6	1	4	2	4	4	4	2
Methyl Chloroformate	ClCOOCH ₃	79-22-1	1	1	1	4	4	4	2
Methyl Chlorosilane	CH ₃ ClSi	993-00-0	1						
Methyl Cyclohexanone	CH ₃ C ₅ H ₉ CO	1331-22-2	1						
Methylcyclopentane	C ₅ H ₉ CH ₃	96-37-7	1	2	1	4	4	4	2
Methylene Bromide	CH ₂ Br ₂	74-95-3	1		1	4	2	-	1
Methylene Chloride	CH ₂ Cl ₂	75-09-2	1		2	4	4	4	2
Methylene Iodide	CH ₂ I ₂	75-11-6	1						
Methyl Ether		115-10-6	1	4	1	2	1	1	1
Methyl Ethyl Ketone(MEK)	CH ₃ COCH ₂ CH ₃	78-93-3	1	4	4	1	4	4	4
Methyl Ethyl Ketone Peroxide	C ₈ H ₁₆ O ₄	1338-23-4	1		4	4	4	2	4
Methyl Formate	HCOOCH ₃	107-31-3	1	4	4	2	4	-	-
Methyl Hexyl Ketone	CH ₃ COC ₆ H ₁₃	111-13-7	1						
Methyl Iodide	CH ₃ I	74-88-4	1						
Methyl Isobutyl Ketone(MIBK)	(CH ₃) ₂ CHCH ₂ COCH ₃	108-10-1	1	4	4	3	4	4	4
Methyl Isocyanate	CH ₃ NCO	624-83-9	1						
Methyl Isopropyl Ketone	CH ₃ COCH(CH ₃) ₂	563-80-4	1		4	2	4	4	4
Methyl Lactate	CH ₃ CHOHCOOCH ₃	547-64-8	1						
Methyl Mercaptan			1		-	1	-	-	-
Methyl Methacrylate	CH ₂ :C(CH ₃)COOCH ₃	80-62-6	1	4	4	4	4	4	4
Methyl Oleate	CH ₃ (CH ₂) ₇ COOCH ₃	112-62-9	1	1	1	2	4	-	2
Methylpentadiene	C ₆ H ₁₀		1						
Methyl Phenylacetate	C ₆ H ₅ CH ₂ COOCH ₃	101-41-7	1						
Methylpyrrolidine	CH ₃ N(CH ₂) ₃ CH ₂		1						
n-Methyl 2-Pyrrolidone(NMP)	CH ₃ N(CH ₂) ₃ CO	51013-18-4	1		2	2	-	2	2
Methyl Salicylate	C ₆ H ₄ OHCOOCH ₃	119-36-8	1		-	2	4	-	-
Methylsulfuric Acid	CH ₃ HSO ₄	75-93-4	1						
Methyltertiary Butyl Ether(MTBE)	(CH ₃) ₃ COCH ₃	1634-04-4	1	2	4	3	3		
MIL-F-25558(RJ-1)			1	1	1	4	1	4	1
MIL-F-25656(JP-6)			1		1	4	1	4	2
MIL-F-81912(JP-9)			1		1	4	3	4	2
MIL-F-82522(RJ-4)			1		1	4	2	4	1
MIL-H-8446(MLO-8515)			1	1	1	4	2	4	1
MIL-L-23699 LUBRICANTS			1	1	1	4	2	4	2
MIL-L-7808 LUBRICANTS			1	1	1	4	2	4	2
MIL-R-25576(RP-1)			1	1	1	4	1	4	1
MIL-S-3136 Type I Fuel			1		1	4	1	4	1
MIL-S-3136 Type II Fuel			1		1	4	2	4	2
MIL-S-3136 Type III Fuel			1		1	4	2	4	2
MIL-S-3136 Type IV Oil, High Swell			1		1	4	1	2	1
MIL-S-3136 Type IV Oil, Low Swell			1		1	4	1	3	1
MIL-S-3136 Type V Oil, Medium Swell			1		1	4	1	2	1
MIL-T-5624 (JP-3,JP-4,JP-5)			1	2	1	4	1	4	2
MIL-T-83133 (JP-8)			1	2	1	4	1	4	2
Milk			1	1	1	1	1	1	1
Mineral Oil			1	1	1	3	1	2	1
Mixed Acid Etchants	HNO ₃ /HF/CH ₃ COOH (3/1/2)		1*	3	3	4	4	4	4
MLO-7277, 7557			1	1	1	4	3	4	3
MLO-8200, 8515 (MIL-H-8446)			1	1	1	4	2	4	1
MOBIL DELVAC 1100, 1110, 1120, 1130		Mobil	1	1	1	4	1	1	
MOBIL HF		Mobil	1	2	1	4	1		
MOBIL NIVAC 20,30		Mobil	1	1	1	1	1		
MOBIL THERM 600		Mobil	1	1	1	4	1		
MOBILJET II Lubricant		Mobil	1						
Molybdenum Disulfide Grease		1317-33-5	1	1	1	4	1		

MO-OL CHEMICAL

CHEMICAL NAME	FORMULA	CAS/Mfgr	Perfluoroelastomer	AFLAS®	VITON®	Ethylene Propylene	Nitrile Buna-N	Silicone	Fluorosilicone
Monomethyl Hydrazine			2	2	4	1	2	4	-
Monomethylaniline			1	2	2	4	4	-	-
Monovinyl Acetylene			1	3	1	1	1	2	-
MOPAR BRAKE FLUID		Mopar	1	1	4	1	3	3	4
Myristic Acid	CH ₃ (CH ₂) ₁₂ COOH	554-63-8	1						
Naphtha		8030-30-6	1	2	1	4	2	4	2
Naphthalene	C ₁₀ H ₈	91-20-3	1	3	1	4	4	4	1
Naphthalenesulfonic Acid	C ₁₀ H ₇ SO ₃ H:HOH	85-47-2	1						
Naphthenic Acid			1	1	1	4	2	4	1
Naphthylamine	C ₁₀ H ₇ NH ₂	134-32-7	1						
Natural Gas			1	1	1	4	1	2	3
Neatsfoot Oil		8002-64-0	1	1	1	2	1	2	1
Neon	Ne	7440-01-9	1	1	1	1	1	1	1
Neville-Winter Acid			1	1	1	2	4	4	2
Niacinamide	C ₅ H ₄ NCONH ₂	98-92-0	1						
Nickel Acetate	Ni(OOCCH ₃) ₂ :4 HOH	373-02-4	1	4	4	1	2	4	4
Nickel Ammonium Sulfate	NiSO ₄ :(NH ₄) ₂ SO ₄ :6 HOH	15699-18-0	1	1	1	1	1		
Nickel Chloride	NiCl ₂	7718-54-9	1	1	1	1	1	1	1
Nickel Cyanide	Ni(CN) ₂ :4 HOH	557-19-7	1						
Nickel Nitrate	Ni(NO ₃) ₂ :6 HOH	13138-45-9	1						
Nickel Sulfate	NiSO ₄	7786-81-4	1	1	1	1	1	1	1
Nicotine	C ₅ H ₄ NC ₄ H ₇ NCH ₃	54-11-5	1						
Nitric Acid (0-50%)	HNO ₃	7697-37-2	1*	2	1	3	4	2	2
Nitric Acid (70%)	HNO ₃	7697-37-2	1*	3	2	4	4	4	4
Nitric Acid, Red Fuming	HNO ₃ /NO ₂ /H ₂ O		1*	3	3	4	4	4	4
p-Nitroaniline	NO ₂ C ₆ H ₄ NH ₂	100-01-6	1						
Nitrobenzene	C ₆ H ₅ NO ₂	98-95-3	1	1	2	4	4	4	4
p-Nitrobenzoic Acid	C ₆ H ₄ (NO ₂)COOH	62-23-7	1						
Nitrocellulose		9004-70-0	1						
Nitroethane	CH ₃ CH ₂ NO ₂	79-24-3	1		4	2	4	4	4
Nitrogen	N	7727-37-0	1		1	1	1	1	1
Nitrogen Dioxide	NO ₂	10102-44-0	1		4				
Nitrogen Oxides	NO _x		1						
Nitrogen Tetroxide	N ₂ O ₄	10102-44-0	2	3	4	4	4	4	4
Nitrogen Trifluoride	NF ₃	7783-54-2	1						
Nitroglycerin	CH ₂ NO ₃ CHNO ₃ CH ₂ NO ₃	55-63-0	1						
Nitromethane	CH ₃ NO ₂	75-52-5	1	3	4	2	4	4	4
p-Nitrophenol	NO ₂ C ₆ H ₄ OH	100-02-7	1						
2-Nitropropane	CH ₃ CHNO ₂ CH ₃	79-46-9	1	2	4	2	4	4	4
Nitrosyl Chloride	NOCl	2696-92-6	1						
Nitrosylsulphuric Acid	HNO ₅ S	7782-78-7	1						
p-Nitrotoluene	NO ₂ C ₆ H ₄ CH ₃	99-99-0	1						
o-Nitrotoluene	NO ₂ C ₆ H ₄ CH ₃	88-72-2	1						
Nitrous Acid	HNO ₂	7782-77-6	1						
Nitrous Oxide	N ₂ O	10024-97-2	1		1	1	1	1	-
NMP(n-Methyl 2-Pyrrolidone)	CH ₃ NCH ₂ CH ₂ CH ₂ CO	51013-18-4	1		2	2	-	2	2
Nonane	CH ₂₃ (CH ₂) ₇ CH ₃	111-84-2	1						
Octachloro Toluene			1		1	4	4	4	2
n-Octadecane	C ₁₈ H ₄₈	593-45-3	1	1	1	4	1	4	1
Octafluorocyclobutane	C ₄ F ₈	115-25-3	2		2	1		-	-
Octafluoropropane	C ₃ F ₈	76-19-7	2						
Octanal	CH ₃ (CH ₂) ₆ CHO	124-13-0	1						
n-Octane	CH ₃ (CH ₂) ₆ CH ₃	111-65-9	1		1	4	2	4	2
n-Octyl Acetate	CH ₃ COO(CH ₂) ₇ CH ₃	103-09-3	1						
n-Octyl Alcohol	CH ₃ (CH ₂) ₆ CH ₂ OH	111-87-5	1	1	1	1	2	2	2
n-Octyl Chloride	CH ₃ (CH ₂) ₆ CH ₂ Cl	111-85-3	1						
Olefins			1						
Oleic Acid	CH ₃ (CH ₂) ₇ CH:CH(CH ₂) ₇ COOH	112-80-1	1	1	2	4	3	4	-
Oleum (fuming sulfuric acid)		8014-95-7	1	1	1	4	3	4	2

1. LITTLE OR NO EFFECT (VOLUME SWELL <10%) 2. POSSIBLE LOSS OF PHYSICAL PROPERTIES (VOLUME SWELL 10-20%) 3. NOTICEABLE CHANGE (VOLUME SWELL 20-40%) 4. NOT SUITABLE FOR SERVICE - INSUFFICIENT DATA

The information presented is based on laboratory testing and does not necessarily indicate end product performance. It is recommended that users of PTM products conduct their own evaluations to determine suitability for the intended application.

OL-PI CHEMICAL

CHEMICAL NAME	FORMULA	CAS/Mfgr	Perfluoroelastomer		Ethylene Propylene		Nitrile Buna-N		Fluorosilicone	
			AFLAS®	VITON®	AFLAS®	VITON®	Silicone	Silicone		
Oleyl Alcohol	CH ₃ (CH ₂) ₇ CH:CH(CH ₂) ₇ CH ₂ OH	143-28-2	1							
Olive oil		8001-25-0	1	1	1	2	1	3	1	
Orthochloro Ethyl Benzene			1	4	1	4	4	4	2	
Oxalic Acid	HOCCOOH:2 HOH	144-62-7	1	1	1	1	2	2	1	
Oygen, Gas (hot)	O ₂	7782-44-7	1*	4	3	4	4	2	1	
Oxygen, Liquid	O ₂	7782-44-7	2*	4	4	4	4			
Ozonated Deionized Water	O ₃ :H ₂ O		1		1*	2				
Ozone	O ₃	10028-15-6	1	1	1	1	4	1	1	
Paint thinner DUCO			1	3	2	4	4	4	2	
Palmitic Acid (Hexadecanoic acid)	CH ₃ (CH ₂) ₁₄ COOH	57-10-3	1	1	1	2	1	4	1	
Paraffins			1							
Paraldehyde	C ₆ H ₁₂ O ₃	123-63-7	1							
Par-al-Ketone			2	4	4	4	4	4	4	
Parathion	(C ₂ H ₅ O) ₂ P(S)OC ₆ H ₄ NO ₂	56-38-2	1							
Peanut Oil		8002-03-7	1	1	1	3	1	1	1	
Pelargonic Acid	CH ₃ (CH ₂) ₇ COOH	112-05-0	1							
Penicillin	(CH ₃) ₂ C ₅ H ₃ NSO(COOH)NHCOR	1406-05-9	1							
Pentachloroethane	CHCl ₂ CCl ₃	76-01-7	1							
Pentachlorophenol	C ₆ Cl ₅ OH	87-86-5	1							
Pentaerythritol	C(CH ₂ OH) ₄	115-77-5	1	1	1	1	1			
Pentaerythritol Tetranitrate(PETN)	C(CH ₂ ONO ₂) ₄	78-11-5	1							
Pentafluoroethane (FC 125)	C ₂ HF ₅		2							
n-Pentane	CH ₃ (CH ₂) ₃ CH ₃	109-66-0	1		1	4	1	4	3	
Peracetic Acid	CH ₃ COOOH	79-21-0	1							
Perchloric Acid	HClO ₄	7601-90-3	1*	1	1	2	4	4	1	
Perchloroethylene	Cl ₂ C:CCl ₂	127-18-4	1	4	1	4	2	4	2	
Petrolatum		8009-03-8	1		1	4	1	4	1	
Petroleum < 121°C/250°F			1	1	1	4	1	2	2	
Petroleum > 121°C/250°F			1	2	2	4	4	4	4	
Petroleum, Crude			1	1	1	4	1	4	1	
Phenethyl Alcohol	C ₆ H ₅ CH ₂ CH ₂ OH	60-12-8	1							
Phenetole	C ₆ H ₅ OC ₂ H ₅	103-73-1	1	4	4	4	4	4	4	
Phenol	C ₆ H ₅ OH	108-95-2	1	1	1	4	4	4	2	
Phenolsulfonic Acid	HOC ₆ H ₄ SO ₃ H	1333-39-7	1		1					
Phenylacetamide	C ₆ H ₅ CH ₂ CONH ₂	103-81-1	1							
Phenyl Acetate	C ₆ H ₅ OOCCH ₃	122-79-2	1							
Phenylbenzene		92-52-4	1	3	1	4	4	4	2	
p-Phenylenediamine	C ₆ H ₄ (NH ₂) ₂	106-50-3	1		4					
Phenylethyl Ether		103-73-1	1	4	4	4	4	4	4	
Phenylhydrazine	C ₆ H ₅ NHNH ₂	100-63-0	1	1	1	4	4	4	-	
Phenylmercuric Acetate	C ₆ H ₅ HgOCOCH ₃	62-38-4	1							
Phorone	(CH ₃) ₂ CCHCOCHC(CH ₃) ₂	504-20-1	1	4	4	1	4	4	4	
Phosgene	COCl ₂	75-44-5	1							
Phosphine	PH ₃	7803-51-2	1							
Phosphoric Acid (20%)	H ₃ PO ₄	7664-38-2	1	1	1	1	4	3	2	
Phosphoric Acid (80%)	H ₃ PO ₄	7664-38-2	1	1	1	1	4	4	3	
Phosphoric Etchants	H ₃ PO ₄ /HNO ₃ /CH ₃ COOH (16/1/2)		1							
Phosphorous Oxychloride	POCl ₃	10025-87-3	1							
Phosphorous Tribromide	PBr ₃	7789-60-8	1							
Phosphorous Trichloride	PCl ₃	7719-12-2	1	1	1	1	4	-	1	
Phosphorous, Molten	P	7723-14-0	1							
Phthalic Acid	C ₆ H ₄ (COOH) ₂	88-99-3	1							
Phthalic Anhydride	C ₆ H ₄ (CO) ₂ O	85-44-9	1	3	4	2	3			
Pickling Solution			1	2	2	3	4	4	4	
Picric Acid	C ₆ H ₂ (NO ₂) ₃ OH	88-89-1	1		1	2	2	4	2	
Pine Oil		8002-09-3	1		1	4	1	4	1	
Pine Tar		8011-48-1	1							
Pinene		1330-16-1	1	1	1	4	2	4	1	
Piperazine	NH(CH ₂) ₂ NH(CH ₂) ₂	110-85-0	1							

PI-PR CHEMICAL

CHEMICAL NAME	FORMULA	CAS/Mfgr	Perfluoroelastomer	AFLAS®	VITON®	Ethylene Propylene	Nitrile Buna-N	Silicone	Fluorosilicone
Piperidine	(CH ₂) ₅ NH	110-89-4	I		4	4	4	4	4
Piranha	H ₂ SO ₄ :H ₂ O ₂		I						
Plating Solution, Chrome			I	I	I	2	4	4	2
Plating Solution, Others			I	I	I	I	I	4	-
Polyethylene Glycol	HOCH ₂ (CH ₂ OCH ₂) _n H ₂ OH	25322-68-3	I	I	3	I	2		
Polyglycerol	(CH ₂ OHCH ₂ OH) _n	25618-55-7	I						
Polyvinyl Acetate Emulsion	CH ₂ CH(OOCCH ₃)	9003-20-7	I	I	3	I	I	-	-
Potassium, Molten	K	7440-09-7	4						
Potassium Acetate	KC ₂ H ₃ O ₂	127-08-2	I		4	I	2	4	4
Potassium Bicarbonate	KHCO ₃	298-24-6	I						
Potassium Bifluoride	KHF ₂	7789-29-9	I						
Potassium Bisulfate	KHSO ₄	7646-93-7	I						
Potassium Bisulfite	KHSO ₃	1310-61-8	I						
Potassium Bitartrate	KHC ₄ H ₄ O ₆	868-14-4	I						
Potassium Bromide	KBr	7758-02-3	I						
Potassium Carbonate	K ₂ CO ₃	584-08-7	I						
Potassium Chlorate	KClO ₃	3811-04-9	I						
Potassium Chloride	KClO ₃	7447-40-7	I	I	I	I	I	I	I
Potassium Chromate	K ₂ CrO ₄	7789-00-6	I						
Potassium Citrate	K ₃ C ₆ H ₅ O ₇ :HOH	866-83-1	I						
Potassium Copper Cyanide	C ₂ CuN ₂ :K	13682-73-0	I	I	I	I	I	I	I
Potassium Cyanate	KOCN	590-28-3	I						
Potassium Cyanide	KCN	1515-50-8	I	I	I	I	I	I	I
Potassium Dichromate	K ₂ Cr ₂ O ₇	7778-50-9	I	I	I	I	I	I	I
Potassium Ferricyanide	K ₃ Fe(CN) ₆	13746-66-2	I						
Potassium Fluoride	KF	7789-23-3	I						
Potassium Glucocyanate	KC ₆ H ₁₁ O ₇	299-27-4	I						
Potassium Hydroxide	KOH	1310-58-3	I*	I	4	I	2	3	3
Potassium Iodide	KI	7681-11-0	I						
Potassium Iodate	KIO ₃	7758-05-6	I						
Potassium Nitrate	KNO ₃	7757-79-1	I	I	I	I	I	I	I
Potassium Nitrite	KNO ₂	7758-09-0	I						
Potassium Oxalate	K ₂ C ₂ O ₄ :HOH	583-52-8	I						
Potassium Perchlorate	KClO ₄	7778-74-7	I						
Potassium Permanganate	KMnO ₄	7722-64-7	I		3				
Potassium Peroxide	K ₂ O ₂	17014-71-0	I						
Potassium Persulfate	K ₂ S ₂ O ₈	7727-21-1	I						
Potassium Phosphate, Dibasic	K ₂ HPO ₄	7758-11-4	I						
Potassium Pyrosulfate	K ₂ S ₂ O ₇	7790-62-7	I						
Potassium Silicate	SiO ₂ :K ₂ O	1312-76-2	I						
Potassium Sodium Tartrate	KNaC ₄ H ₄ O ₆ :4 HOH	304-59-6	I						
Potassium Stannate	K ₂ SnO ₃ :3HOH	12142-33-5	I						
Potassium Stearate	C ₁₇ H ₃₅ COOK	59329-3	I						
Potassium Sulfate	K ₂ SO ₄	7778-80-5	I	I	I	I	I	I	I
Potassium Sulfide	K ₂ S	1312-73-8	I						
Potassium Sulfite	K ₂ SO ₃ :2HOH	10117-38-1	I		I	I	I	I	I
Potassium Tartrate	K ₂ C ₄ H ₄ O ₆ :1/2 HOH	921-53-9	I						
Potassium Thiocyanate	KCNS	333-20-0	I						
Potassium Thiosulfate	K ₂ S ₂ O ₃	10294-66-3	I						
PRESTONE Antifreeze			I	2	I	I	I	I	I
PRL-High Temp, Hydraulic Oil			I	I	I	4	2	2	I
Producer Gas			I	I	I	4	I	2	2
Propane	C ₃ H ₈	74-98-6	I	I	I	4	I	4	2
Propionaldehyde	C ₂ H ₅ CHO	123-38-6	I						
n-Propyl Acetate	C ₃ H ₇ OOCCH ₃	109-60-4	I	4	4	2	4	4	4
n-Propyl Acetone	CH ₃ COC ₄ H ₉	541-78-6	I	4	4	I	4	4	4
Propyl Alcohol	CH ₃ CH ₂ CH ₂ OH	71-23-8	I	I	I	I	I	I	I
n-Propylamine	C ₃ H ₇ NH ₂	107-10-8	2						
n-Propylbenzene	C ₆ H ₅ CH ₂ CH ₂ CH ₃	103-65-1	I						

I. LITTLE OR NO EFFECT (VOLUME SWELL <10%) 2. POSSIBLE LOSS OF PHYSICAL PROPERTIES (VOLUME SWELL 10-20%) 3. NOTICEABLE CHANGE (VOLUME SWELL 20-40%) 4. NOT SUITABLE FOR SERVICE - INSUFFICIENT DATA

The information presented is based on laboratory testing and does not necessarily indicate end product performance. It is recommended that users of PTM products conduct their own evaluations to determine suitability for the intended application.

PR-SI CHEMICAL

CHEMICAL NAME	FORMULA	CAS/Mfgr	Perfluoroelastomer	AFLAS®	VITON®	Ethylene Propylene	Nitrile Buna-N	Silicone	Fluorosilicone
Propylene	CH ₃ CH:CH ₂	115-07-1	1	1	1	4	4	4	2
Propylene Chlorohydrin	CH ₂ ClCHOHCH ₃	78-89-7	1						
Propylene Dichloride	CH ₃ CHClCH ₂ Cl	78-87-5	1						
Propylene Glycol	CH ₃ CHOHCH ₂ OH	57-55-6	1	1	1	1	1		
Propylene Glycol Methyl Ether Acetate (PGMEA)			1						
Propylene Imine	CH ₂ H ₂ C=NHCH ₂	75-55-8	1						
Propylene Oxide	H ₂ COCHCH ₃	75-56-9	1	4	4	2	4	4	4
n-Propylene Nitrate	C ₃ H ₇ NO ₃	627-13-4	1		1*	2	4	4	4
n-Propyl Propionate	CH ₃ CH ₂ COOCH ₂ CH ₂ CH ₃	106-36-5	1		4	2	4	4	4
PRS-3000	NMP/Sulfolane/Monoisopropanolamine	J.T. Baker	1		2	2		2	2
PYDRAUL 115E		66594-32-9	2	1	1	1	4	4	3
PYDRAUL 230C, 312C & 540C		Monsanto Chem.	2	1	1	4	4	4	4
PYRANOL TRANSFORMER OIL		52673-62-8	1	1	1	4	1	4	1
Pyridine	N(CH) ₅	110-86-1	1	2	4	2	4	4	4
Pyrogallol	C ₆ H ₃ (OH) ₃	87-66-1	1						
PYROGARD 42,43,53 & 55		Monsanto Chem.	1	1	1	4	1	3	2
PYROGARD C&D (Water & Petroleum)		Monsanto Chem.	1	1	1	4	1	3	2
Pyroligneous Acid		8030-97-5	1	4	4	2	4		4
PYROLUBE			1	1	1	2	4	2	2
Pyrosulfuryl Chloride	S ₂ O ₅ Cl ₂	7791-27-7	1						
Pyrrole		109-97-7	1		4	4	4	2	4
Pyruvic Acid	CH ₃ COCOOH	127-17-3	1						
Quinine	C ₂₀ H ₂₄ N ₂ O ₂ :3 HOH	130-95-0	1						
Quinizarin	C ₁₄ H ₆ O ₂ (OH) ₂	81-64-1	1						
Quinoline	C ₉ H ₇ N	91-22-5	1						
Quinone	C ₆ H ₄ O ₂	106-51-4	1						
Radiation			2	1	4	1	3	2	4
Raffinate			1						
Rapeseed Oil		8002-13-9	1	1	1	1	2	4	1
RED LINE 100 OIL			1	1	1	4	1	4	1
Resorcinol	C ₆ H ₄ (OH) ₂	108-46-3	1	1	1	4	4		
Rhodium	Rh	7440-16-6	1						
Riboflavin	C ₁₇ H ₂₀ N ₄ O ₆	83-88-5	1						
Ricinoleic Acid	CH ₃ (CH ₂) ₅ CH(OH)CH ₂ CH:CH(CH ₂) ₇ COOH	141-22-0	1						
RJ-1 (MIL-F-25558)			1	1	1	4	1	4	1
RJ-4 (MIL-F-82522)			1	1	1	4	2	4	1
Rosin			1						
RP-1 (MIL-R-25576)		7500-55-2	1	1	1	4	1	4	1
Saccharin Solution		81-07-2	1						
Sal Ammoniac		12125-02-9	1	1	1	1	1	2	1
Salicylic Acid	C ₆ H ₄ (OH)(COOH)	69-72-7	1	1	1	1	2		1
Salt Water			1	1	2	1	1	1	1
SANTOSAFE 300			1	1	1	3	4	1	1
Sebacic Acid	COOH(CH ₂) ₈ COOH	111-20-6	1						
Selenic	H ₂ SeO ₄	7783-08-6	1						
Selenious Acid	H ₂ SeO ₃	7783-00-8	1						
Sewage			1	1	2	1	1	1	1
SHELL TELLUS 27 (Petro Base)		Shell Oil	1	1	1	4	1	4	1
SHELL UMF (5% Aromatic)		Shell Oil	1	1	1	4	1	4	1
Shellac		9000-59-3	1						
Silane	SiH ₄	7803-62-5	1						
Silicate Esters			1	1	1	4	2	4	1
Silicon Tetrachloride	SiCl ₄	10026-04-7	2						
Silicon Tetrafluoride	SiF ₄	7783-61-1	2						
Silicone Oils			1	1	1	1	1	3	1
Silver Bromide	AgBr	7785-23-1	1						
Silver Chloride	AgCl	7783-90-6	1						
Silver Cyanide	AgCN	506-64-9	1						
Silver Nitrate	AgNO ₃	7761-88-8	1	1	1	1	2	1	1

SI-SO CHEMICAL

CHEMICAL NAME	FORMULA	CAS/Mfgr	Perfluoroelastomer	AFLAS®	VITON®	Ethylene Propylene	Nitrile Buna-N	Silicone	Fluorosilicone
Silver Oxide	Ag ₂ O	20667-12-3	I						
Silver Sulfate	Ag ₂ SO ₄	10294-26-5	I						
SINCLAIR OPALINE CX-EP LUBE			I	I	I	4	I	4	2
SKYDROL 500		120038-15-5	I	I	4	I	4	3	3
SKYDROL 7000		Monsanto Chem.	I	I	2	I	4	3	3
Soap Solutions			I	I	2	I	I	I	I
Soda Ash	Na ₂ CO ₃	497-19-8	I	I	I	I	I	I	I
Sodium, Molten	Na	7440-23-5	4						
Sodium Abiate	C ₁₉ H ₂₉ COONa		I						
Sodium Acetate	NaC ₂ H ₃ O ₂	127-09-3	I	2	4	I	2	4	4
Sodium Aluminate	NaAlO ₂	1302-42-7	I						
Sodium Antimonate	NaSbO ₃	11112-10-0	I						
Sodium Arsenate	Na ₃ AsO ₄ :12 HOH	7783-43-0	I						
Sodium Benzoate	C ₆ H ₅ COONa	532-32-1	I						
Sodium Bicarbonate	NaHCO ₃	144-55-8	I	I	I	I	I	I	I
Sodium Bifluoride	NaHF ₂	1333-83-1	I						
Sodium Bisulfate	NaHSO ₄	7681-38-1	I	I	I	I	I	I	I
Sodium Bisulfite	NaHSO ₃	7631-90-5	I	I	I	I	I	I	I
Sodium Bitartrate	NaHC ₄ H ₅ O ₆ :HOH	526-94-3	I						
Sodium Borate	Na ₂ B ₄ O ₇ :10 HOH	1303-96-4	I	I	I	I	I	I	I
Sodium Bromate	NaBrO ₃	7789-38-0	I						
Sodium Bromide	NaBrO ₃	7647-15-6	I						
Sodium Chlorate	NaClO ₃	7775-09-9	I						
Sodium Chloride	NaCl	7647-14-5	I	I	I	I	I	I	I
Sodium Chlorite	NaClO ₂	7758-19-2	I						
Sodium Chloroacetate	ClCH ₂ COONa	3926-62-3	I						
Sodium Chromate	Na ₂ CrO ₄ :10 HOH	7775-11-3	I						
Sodium Citrate	C ₆ H ₅ O ₇ Na ₃ :2 HOH	68-04-2	I						
Sodium Cyanate	NaOCN	917-61-3	I						
Sodium Cyanide	NaCN	143-33-9	I	I	2	I	I	I	I
Sodium Diacetate	CH ₃ COONa:x (CH ₃ COOH)	126-96-5	I						
Sodium Dichromate	Na ₂ Cr ₂ O ₇ :2 HOH	10588-01-9	I						
Sodium Ethylate	C ₂ H ₅ ONa	141-52-6	I						
Sodium Ferricyanide	Na ₃ Fe(CN) ₆ :HOH	14217-21-1	I						
Sodium Ferrocyanide	Na ₄ Fe(CN) ₆ :10 HOH	13601-19-9	I						
Sodium Flouride	NaF	7681-49-4	I						
Sodium Fluorosilicate	Na ₂ SiF ₆	16893-85-9	I						
Sodium Glutamate	COOH(CH ₂) ₂ CH(NH ₂)COONa	142-47-2	I						
Sodium Hydride	NaH	7646-69-7	I						
Sodium Hydrosulfide	Na ₂ S:2 HOH	7775-14-6	I						
Sodium Hydroxide	NaOH	1310-73-2	I	I	3*	I	2	2	2
Sodium Hypochlorite	NaOCl:5 H ₂ O	7681-52-9	I	I	I	2	2	2	2
Sodium Hypophosphite	NaH ₂ PO ₂ :HOH	7681-52-0	I						
Sodium Iodide	NaI	7681-82-5	I						
Sodium Lactate	CH ₃ CHOHCOONa	72-17-3	I						
Sodium Metaphosphate	(NaPO ₃) _n	10361-03-2	I	I	I	I	I	-	I
Sodium Metasilicate	Na ₂ SiO ₃	6834-82-0	I						
Sodium Methylate	CH ₃ ONa	124-41-4	I						
Sodium Nitrate	NaNO ₃	7631-99-4	I	I	I	I	2	4	-
Sodium Oleate	C ₁₇ H ₃₃ COONa	143-19-1	I						
Sodium Orthosilicate	Na ₂ SiO ₃ :2 NaOH		I						
Sodium Oxalate	Na ₂ C ₂ O ₄	62-76-0	I						
Sodium Perborate	NaBO ₃	7632-04-4	I	I	I	I	2	2	I
Sodium Percarbonate	Na ₂ CO ₃ :1-1/2 HOH	4452-58-8	I						
Sodium Perchlorate	NaClO ₄	7601-89-0	I						
Sodium Peroxide	Na ₂ O ₂	1313-60-6	I	I	I	I	2	4	I
Sodium Persulfate	Na ₂ S ₂ O ₈	7775-27-1	I						

I. LITTLE OR NO EFFECT (VOLUME SWELL <10%) 2. POSSIBLE LOSS OF PHYSICAL PROPERTIES (VOLUME SWELL 10-20%) 3. NOTICEABLE CHANGE (VOLUME SWELL 20-40%) 4. NOT SUITABLE FOR SERVICE - INSUFFICIENT DATA

The information presented is based on laboratory testing and does not necessarily indicate end product performance. It is recommended that users of PTM products conduct their own evaluations to determine suitability for the intended application.

CHEMICAL NAME	FORMULA	CAS/Mfgr	Perfluoroelastomer		Ethylene Propylene		Nitrile Buna-N		Fluorosilicone	
			AFLAS®	VITON®			Silicone			
Sodium Phenate	C ₆ H ₅ ONa	139-02-6								
Sodium Phosphate, Dibasic	Na ₂ HPO ₄	7558-79-4						4	-	
Sodium Plumbite	Na ₂ PbO ₂	12034-30-9								
Sodium Pyrophosphate	Na ₄ P ₂ O ₇	7722-88-5								
Sodium Salicylate	HOC ₆ H ₄ COONa	54-21-7								
Sodium Salts										
Sodium Sesquisilicate	Na ₆ Si ₂ O ₇	1344-09-8								
Sodium Silicate	2Na ₂ O:SiO ₂	1344-09-8						-	-	
Sodium Stannate	Na ₂ Sn(OH) ₆	12058-66-1								
Sodium Stearate	NaOCC ₁₇ H ₃₅	822-16-2								
Sodium Sulfate Decahydrate	Na ₂ SO ₄ :10 HOH	7727-73-3				2	4	-		
Sodium Sulfate, Anhydrous	Na ₂ SO ₄	7757-82-6								
Sodium Sulfide	Na ₂ S:9 HOH	1313-82-2								
Sodium Sulfite	Na ₂ SO ₃	7757-83-7								
Sodium Tartrate	Na ₂ C ₄ H ₄ O ₆ :2 HOH	868-18-8								
Sodium Tetrasulfide	Na ₂ S ₄	12034-39-8								
Sodium Thiocyanate	NaSCN	540-72-7								
Sodium Thiosulfate	Na ₂ S ₂ O ₃ :5 HOH	7772-98-7					2			
Sodium Trichloroacetate	CCl ₃ COONa	650-51-1								
Sodium Tripolyphosphate	Na ₅ P ₃ O ₁₀	7758-29-4			2		4			
SOLVASOL 1,2&3				4		4				
Sorbitol	C ₆ H ₈ (OH) ₆	50-70-4								
Sour Crude Oil						4	3	4	4	
Sour Natural Gas						4	3	4	4	
Soybean Oil		8001-22-7				3				
SR6 FUEL						4	2	4		
Standard Clean 1 (SC-1)	NaOH:H ₂ O ₂									
Standard Clean 2 (SC-2)	HCl:H ₂ O ₂							4	4	
Stannic Chloride	SnCl ₄	7646-78-8						2		
Stannous Bromide	SnBr ₂	10031-24-0								
Stannous Chloride	SnCl ₂	7772-99-8						2		
Stannous Fluoride	SnF ₂	7783-47-3								
Stannous Sulfate	SnSO ₄	7488-55-3								
STAUFFER 7700		Stauffer		3		4	2	4	2	
Steam < 149°C/300°F	H ₂ O			2	2		4	3	4	
Steam > 149°C/300°F	H ₂ O		2	3	4	4	4	4	4	
Stearic Acid	CH ₃ (CH ₂) ₁₆ COOH	57-11-4			2	2	2	2	-	
Stoddard Solvent (ASTM D-484-52)				2		4		4		
Strontium Acetate	Sr(C ₂ H ₃ O ₂) ₂ :1/2 HOH	543-94-2								
Strontium Carbonate	SrCO ₃	1633-05-2								
Strontium Chloride	SrCl ₂	101476-85-4								
Strontium Hydroxide	Sr(OH) ₂	18480-07-4								
Strontium Nitrate	Sr(NO ₃) ₂	10042-76-9								
Styrene, Monomer	C ₆ H ₅ CH:CH ₂	100-42-5		4		4	4	4	3	
Succinaldehyde	OHCH ₂ CH ₂ CHO	638-37-9								
Succinic Acid	CO ₂ H(CH ₂) ₂ CO ₂ H	110-15-6								
Sucrose Solution	C ₁₂ H ₂₂ O ₁₁	57-50-1								
Sulfamic Acid	HOSOONH ₂	5329-14-6								
Sulfanilic Acid	H ₂ NC ₆ H ₄ SO ₃ H:HOH	121-57-3								
Sulfite Liquors						2	2	4	2	
Sulfolane	(CH ₂) ₄ SO ₂	126-33-0			2		2			
Sulfur, Molten	S	7704-34-9				3	4	3		
Sulfur Chloride	S ² Cl ₂	10025-67-9				4	4	3		
Sulfur Dioxide	SO ₂	7449-09-9		2	3		4	2	2	
Sulfur Hexafluoride	SF ₆	2551-62-4	2	3	3		2	2	2	
Sulfur Tetrafluoride	SF ₄	7783-60-0	2							
Sulfur Trioxide, Dry	SO ₃	7449-11-9		2		2	4	2	2	
Sulfuric Acid (20% Oleum)							2			
Sulfuric Acid (96%)	H ₂ SO ₄	7664-93-9		4	1*	4	4	4	4	

SU-TR CHEMICAL

CHEMICAL NAME	FORMULA	CAS/Mfgr	Perfluoroelastomer	AFLAS®	VITON®	Ethylene Propylene	Nitrile Buna-N	Silicone	Fluorosilicone
Sulfurous Acid	H ₂ SO ₄	7782-99-2	I	I	3	2	2	4	-
SUNOCO SAE 10		Sunoco	I	I	I	4	I	4	I
SUPERSHELL Gasoline			I	3	I	4	I	4	2
SWANFINCH EP Lubricant			I	2	I	4	I	4	I
Tallow		61789-97-7	I						
Tannic Acid	C ₇₆ H ₅₂ O ₄₆	1401-55-4	I	I	I	I	I	2	I
Tar		8007-45-2	I	I	I	4	2	2	I
Tartaric Acid	HOOC(CHOH) ₂ COOH	133-37-9	I	I	I	2	I	I	I
TEOS (Tetraethylorthosilicate)	(C ₂ H ₅) ₄ SiO ₄	78-10-4	I		I	I	I	4	I
Terephthalic Acid	C ₆ H ₄ (COOH) ₂	100-21-0	I						
Terpineol	C ₁₀ H ₁₇ OH	98-55-5	I	I	I	3	2	-	I
Terpinyl Acetate	C ₁₀ H ₁₇ OOCCH ₃	80-26-2	I						
Tetrabromomethane		558-13-4	I	3	I	4	4	4	2
Tetrabutyl Titanate	Ti(OC ₄ H ₉) ₄	5593-70-4	I	I	I	I	2	4	4
Tetrachloroethane	(CHCl ₂) ₂	79-34-5	I	4	I	4	4	-	2
Tetrachloroethylene	Cl ₂ C:CCl ₂	127-18-4	I	4	I	4	2	4	2
Tetraethyl Lead	Pb(C ₂ H ₅) ₄	78-00-2	I	3	I	4	2	-	2
Tetrafluoroethane (FC 134a)	CF ₃ CH ₂ F		I						
Tetrafluoromethane (FC 14)	CF ₄	75-73-0	I		I	I	I	4	-
Tetrahydrofuran (THF)	CH ₂ CH ₂ CH ₂ CH ₂ O	109-99-9	I	4	4	3	4	4	4
TETRALIN (Tetrahydronaphthalene)	C ₁₀ H ₁₂	119-64-2	I	4	I	4	4	4	I
Tetramethyl ammonium hydroxide(TMAH)(25%)(CH ₃) ₄ NOH		75-59-2	I						
TEXACO 3450 GEAR OIL		Texaco	I	I	I	4	I	4	I
TEXACO UNI-TEMP GREASE		Texaco	I	I	I	4	I	2	I
TEXAMATIC 3525 Fluid			I	I	I	4	I	4	2
THERMINOL 55		69522-75-4	I		I	4	2	4	-
Thioglycolic Acid	H ₅ CH ₂ COOH	68-11-1	I						
THIOKOL TP-90B			I	I	I	I	4	-	2
THIOKOL TP-95			I	I	I	I	4	-	2
Thionyl Chloride	SOCl ₂		I		2	3	4		
Thiophene		110-02-1	I						
Thiophosphoryl Chloride	PSCl ₃	3982-91-0	I						
Thiourea	(NH ₂) ₂ CS	62-56-6	I						
Thorium Nitrate	Th(NO ₃) ₄ ·4 HOH	13823-29-5	I						
Tidewater Oil. BEEDOL			I	I	I	4	I	2	I
Titanic Acid	H ₂ TiO ₃	20338-08-3	I						
Titanium Dioxide	TiO ₂	13463-67-7	I						
Titanium Sulfate	Ti(SO ₄) ₂ ·9 HOH	13825-74-6	I						
Titanium Tetrachloride	TiCl ₄	7550-45-0	2	2	I	4	2	4	2
TMA (Trimethylamine)	(CH ₃) ₃ N	75-50-3	2						
TMAH(TetramethylAmmonium Hydroxide)	(CH ₃) ₄ NOH	75-59-2	I						
TMAI (Trimethylaluminum)	(CH ₃) ₃ Al	75-24-1	I						
TMB (Trimethyl Borate)	(CH ₃ O) ₃ B	121-43-7	I						
TMCTS(Tetramethylcyclotetrasiloxane)	(HSi(CH ₃)O) ₄		I						
TMP (Trimethyl Phosphite)	(CH ₃ O) ₃ P	121-45-9	I						
TMPO (Trimethyl Phosphate)	(CH ₃ O) ₃ PO	512-56-1	I						
Toluene	C ₆ H ₅ CH ₃	108-88-3	I	4	I*	4	4	4	2
Toluene Diisocyanate (TDI)	CH ₃ C ₆ H ₃ (NCO) ₂	584-84-9	I	4	3	2	4	4	4
p-Toluenesulfonyl Chloride	H ₃ CC ₆ H ₄ SO ₂ Cl	98-59-9	I						
p-Toluidine	CH ₃ C ₆ H ₄ NH ₂	106-49-0	I						
Toluquinone	CH ₃ C ₆ H ₃ O ₂		I						
p-Tolylaldehyde	CH ₃ C ₆ H ₄ CHO	1334-78-7	I						
Transformer Oil			I	I	I	4	I	2	I
Transmission Fluid Type A			I	I	I	4	I	2	I
Triacetin	C ₃ H ₅ (OCOCH ₃) ₃	102-76-1	I	4	4	I	2	-	4
Triallyl Phosphate	(CH ₂ :CHCH ₂ O) ₃ PO		I	I	I	I	4	3	2
Tributoxyethyl Phosphate	(CH ₃ (CH ₂) ₃ O(CH ₂) ₂ O) ₃ PO		I	I	I	I	4	-	2
Tributylamine	(C ₄ H ₉) ₃ N	102-82-9	I						
Tributyl Citrate	C ₃ H ₅ O(COOC ₄ H ₉) ₃	77-94-1	I						

I. LITTLE OR NO EFFECT (VOLUME SWELL <10%) 2. POSSIBLE LOSS OF PHYSICAL PROPERTIES (VOLUME SWELL 10-20%) 3. NOTICEABLE CHANGE (VOLUME SWELL 20-40%) 4. NOT SUITABLE FOR SERVICE - INSUFFICIENT DATA

The information presented is based on laboratory testing and does not necessarily indicate end product performance. It is recommended that users of PTM products conduct their own evaluations to determine suitability for the intended application.

TR-VI CHEMICAL COMPATIBILITY

CHEMICAL NAME	FORMULA	CAS/Mfgr	Perfluoroelastomer		Ethylene Propylene		Nitrile Buna-N		Fluorosilicone	
			AFLAS®	VITON®	AFLAS®	VITON®	Silicone	Fluorosilicone		
Tributyl Mercaptan			1		1	4	4	4	3	
Tributyl Phosphate	(C ₄ H ₉) ₃ PO ₄	126-73-8	1	2	4	1	4	4	4	
Trichloroacetic Acid (TCA)	CCl ₃ COOH	76-03--9	1	3	3	2	2	-	4	
Trichloroacetyl Chloride	CCl ₃ COCl	76-02-8	1							
1,2,3-Trichlorobenzene	C ₆ H ₃ Cl ₃	87-61-6	1							
1,1,1-Trichloroethane	CH ₃ CCl ₃	71-55-6	1	4	1	4	4	4	2	
Trichloroethylene (TCE)	CHCl:CCl ₂	79-01-6	1	4	1	4	3	4	2	
Trichlorofluoromethane (FC 11)	CCl ₃ F	75-69-4	2	4	2	4	2	4	2	
Trichlorophenylsilane	Cl ₃ SiC ₆ H ₅	98-13-5	1							
1,2,3-Trichloropropane	CH ₂ ClCHClCH ₂ Cl	96-18-4	1							
Trichlorosilane	SiHCl ₃	10025-78-2	1							
Trichlorotrifluoroethane (FC 113)	CCl ₂ FCClF ₂	76-13-1	2*	4	2	4	2	4	4	
Tricresyl Phosphate	(CH ₃ C ₆ H ₄ O) ₃ PO	78-30-8	1	1	1*	1	4	3	2	
Triethanolamine (TEA)	(HOCH ₂ CH ₂) ₃ N	102-71-6	2	1	4	2	3	-	4	
Triethylaluminum	(C ₂ H ₅) ₃ Al	97-93-8	1		3	3	4			
Triethylamine	(C ₂ H ₅) ₃ N	121-44-8	1							
Triethylborane	(C ₂ H ₅) ₃ B	97-94-9	1		1	3	4			
Triethyl Borate	(C ₂ H ₅) ₃ BO ₃		1							
Triethylene Glycol (TEG)	HO(C ₂ H ₄ O) ₃ H	112-27-6	1							
Triethylenetetramine (TETA)	NH ₂ (C ₂ H ₄ NH) ₂ C ₂ H ₄ NH ₂	112-24-3	1							
Triethyl Phosphate	(C ₂ H ₅) ₃ PO ₄	78-40-0	1							
Trifluoroacetic Acid	CF ₃ COOH	76-05-1	2							
Trifluoroethane (FC 143a)			1	2	1	4	4	4	2	
Trimethylaluminum (TMAI)	(CH ₃) ₃ Al	75-24-1	1							
Trimethylamine (TMA)	(CH ₃) ₃ N	75-50-3	2							
Trimethyl Borate (TMB)	(CH ₃ O) ₃ B	121-43-7	1							
2,2,4-Trimethylpentane	(CH ₃) ₂ CHCH ₂ CH ₂ CH(CH ₃) ₂	540-84-1	1							
Trimethyl Phosphate (TMPO)	(CH ₃ O) ₃ PO	512-56-1	1							
Trimethyl Phosphite(TMP)	(CH ₃ O) ₃ P	121-45-9	1							
Trimethylolpropane	C ₂ H ₅ C(CH ₂ OH) ₃	77-99-6	1							
Trinitrotoluene (TNT)	CH ₃ C ₆ H ₂ (NO ₂) ₃	118-96-7	1	2	2	4	4	-	2	
Trioctyl Phosphate	(C ₈ H ₁₇) ₃ PO ₄	78-42-2	1	1	2	2	4	3	2	
Tritium	T	10028-17-8	1							
Tung Oil (China Wood Oil)		8001-20-5	1	1	1	4	1	4	2	
Tungsten Hexafluoride	Wf ₆	7783-82-6	1							
Tungstic Acid	H ₂ WO ₄	7783-03-1	1							
Turbine Oil No.15 (MIL L-7808A)			1	1	1	4	2	4	2	
Turpentine	C ₁₀ H ₁₆	8006-64-2	1	1	1	4	1	4	2	
UCON HYDROLUBE J-4		Union Carbide	1	1	3	1	2	1	2	
UCON OIL LB-385, 400X		Union Carbide	1	1	4	1	1	1	1	
UDMH(Unsymmetrical Dimethyl Hydrazine)	(CH ₃) ₂ NNH ₂	57-14-7	2	3	4	1	2	4	4	
UNIVIS 40 Hydraulic Fluid		Exxon	1	1	1	4	1	4	1	
UNIVOLT NO.35 (Mineral Oil)		Exxon	1	1	1	4	1	4	1	
UPDI (Ultra Pure Deionized Water)	H ₂ O		1	2	1*	2				
Uranium Hexafluoride	UF ₆	7783-81-5	2							
Urea	CO(NH ₂) ₂	57-13-6	1							
Uric Acid		69-93-2	1							
n-Valeraldehyde	CH ₃ (CH ₂) ₃ CHO	110-62-3	1							
Valeric Acid	CH ₃ (CH ₂) ₃ COOH	109-52-4	1							
Vanadium Pentoxide	V ₂ O ₅	1314-62-1	1							
Varnish			1	2	1	4	2	4	2	
Vegetable Oils			1	1	1	3	1	1	1	
VERSILUBE F44, F50 & F55		GE	1	1	1	1	1	3	1	
Vinegar			1		2	1	2	3	3	
Vinyl Acetate	CH ₃ COOCH:CH ₂	108-05-4	1	4	4	2	4			
Vinyl Chloride (VC)	CH ₂ :CHCl	75-01-4	1		1	4	4	-	-	
Vinyl Fluoride	CH ₂ :CHF	75-02-5	1		2					
Vinylidene Chloride	CH ₂ :CCl ₂	75-35-4	1							
Vinylpyridine	C ₅ H ₄ NCH:CH ₂		1							

VV-71

CHEMICAL COMPATIBILITY

CHEMICAL NAME	FORMULA	CAS/Mfgr	Perfluoroelastomer	AFLAS®	VITON®	Ethylene Propylene	Nitrile Buna-N	Silicone	Fluorosilicone
VV-H-910			I	I	I	I	3	2	2
WAGNER 21B Brake Fluid			I	I	4	I	3	3	4
Water	H ₂ O	7732-18-5	I	I	I	I	I	I	I
WEMCO C			I	I	I	4	I	4	I
Whiskey & Wines			I	I	I	I	I	I	I
White Pine Oil			I	I	I	4	2	4	I
Wolmar Salts			I	I	I	I	I	I	I
Xenon	Xe	7440-63-3	I	I	I	I	I	I	I
Xylene	C ₆ H ₄ (CH ₃) ₂	1330-20-7	I	4	2	4	4	4	I
Xylidine	(CH ₃) ₂ C ₆ H ₃ NH ₂	1300-73-8	I	2	4	4	3	4	4
Xylol			I	4	I	4	4	4	I
Zeolites	Na ₂ O:Al ₂ O ₃ :x SiO ₂		I	I	I	I	I	-	I
Zinc Acetate	Zn(C ₂ H ₃ O ₂) ₂ :2 HOH	557-34-6	I	3	4	I	2	4	4
Zinc Ammonium Chloride	ZnCl ₂ :2 NH ₄ Cl		I						
Zinc Chloride	ZnCl ₂	7646-85-7	I	I	I	I	2	I	I
Zinc Chromate	ZnCrO ₄ :7HOH	13530-65-9	I						
Zinc Cyanide	Zn(CN) ₂	557-21-1	I						
Zinc Diethyldithiocarbamate	Zn(SCSN(C ₂ H ₅) ₂) ₂	14324-55-1	I						
Zinc Fluorosilicate	ZnSiF ₆ :6 HOH	1687-71-9	I						
Zinc Hydrosulfite	ZnS ₂ O ₄	7779-86-4	I						
Zinc Naphthenate	Zn(C ₆ H ₅ COO) ₂	12001-85-3	I						
Zinc Nitrate	Zn(NO ₃) ₂ :6 HOH	7779-88-6	I						
Zinc Oxide	ZnO	1314-13-2	I						
Zinc Phenolsulfonate	Zn(SO ₃ C ₆ H ₄ OH) ₂ :8 HOH	127-82-2	I						
Zinc Phosphate	Zn ₃ (PO ₄) ₂	7779-90-0	I						
Zinc Salts			I	I	I	I	I	I	I
Zinc Stearate	Zn(C ₁₈ H ₃₅ O ₂) ₂	557-05-1	I						
Zinc Sulfate	ZnSO ₄ :7 HOH	7733-02-0	I	I	I	I	I	I	I
Zinc Sulfide	ZnS	1314-98-3	I						
Zirconium Nitrate	Zr(NO ₃) ₂ :5 HOH	13746-89-9	I						