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## FEP / PFA / Teftek® Chemical Compatibility

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Teftek®, FEP or PFA encapsulation combined with Coating Center's premium silicone core and manufactured to the highest standards, provide superior endless seal integrity, reliability, performance and repeated sealing in the harshest environments.

This document is intended to provide information on the family of fluoropolymers and list chemicals to which FEP, PFA and Teftek® are resistant

### PTFE, FEP, PFA and Teftek® explained

PTFE is part of a closely related family of fluoropolymers. At times, it is mistaken that PTFE is the one and only fluoropolymer, when FEP, PFA and Teftek® also can be used under the appellation.

Though all of the fluoropolymers can be catalogued in the same family, they vary in regards to thermal and mechanical properties.

PTFE and PFA have a raised temperature tolerance in comparison to FEP and Teftek®.

FEP, PFA and Teftek® are clear, yet PTFE is translucent. FEP, PFA and especially Teftek® have better mechanical properties in comparison to PTFE.

### Outstanding properties of Fluoropolymers:

- Chemical Inertness
- Non-Stick / Self Cleaning
- Low Friction / Self-Lubricating
- Dielectric Properties
- Weather Resistance / Non-Ageing
- Insensitive To Uv
- Non-Toxic
- Broad Temperature Range (- 200 °C / Up To + 260 °C, Depending On Type)
- Non-Flammable

### The only materials known to react with Fluoropolymers are:

- Elemental alkali metals like sodium, potassium and lithium (molten or in solution)
- Intimate blends of finely divided metal powders (e.g. aluminium or magnesium) with powdered Fluoropolymers can react violently when ignited, but ignition temperatures are far above the published recommended maximum service temperature for Fluoropolymers
- Extremely potent oxidizer, fluorine (F<sub>2</sub>) and related compounds like chlorine trifluoride (ClF<sub>3</sub>)
- 80% NaOH or KOH solutions at or near the upper service temperature

Polytetrafluoroethylene (PTFE) is produced by the polymerization of tetrafluoroethylene (TFE) monomer yielding a perfluorinated straight-chain high molecular weight polymer with above mentioned unique properties.

FEP (Perfluorinated ethylene-propylene) is a copolymer of tetrafluoroethylene (TFE) and hexafluoropropylene (HFP)

PFA (Perfluoroalkoxy) resin is a copolymer of tetrafluoroethylene(TFE) and perfluorovinyl ether.

Teftek® is a Coating Center trade name for a modified copolymer of tetrafluoroethylene (TFE) and another polymer resulting in an encapsulation material, which is resistant to virtually all chemicals and has far superior tensile strength, abrasion and creep resistance than PTFE, FEP or PFA.

### FDA Food Contact Compliance

Teftek is FDA compliant, meeting requirements of 21 CFR 177.1500 for repeated food contact use, up to 120°C / (250°F)

Coating Center encapsulated Tank Lid seals are manufactured to the highest standards, available with a combination of advanced fluoroplastic encapsulations and premium silicone cores, producing a superior ring that provides repeated sealing in the harshest environments.

We can offer multiple cross sections to fit all 290 – 550 mm Man Lids.

PROPERTY	Test Method	Units	Fluorinated Ethylene Propylene (FEP)	Perfluoroether (PFA)	Teftek® Encapsulation
Encapsulation Max Service Temperature	8,000 hour aging tests	°C / °F	205 / 400	260 / 500	160 / 320
Encapsulation Tear strength	ASTM D1004 (Initial)	N / Kg	2.650 / 0.270	4.900 / 0.500	5.000 / 0.600
Encapsulation Tensile Strength	ASTM D638 @ 24°C / 75°F	PSI / Bar / MPa	3400 / 234 / 23.0	3600 / 248 / 25.0	6600 / 455 / 45.5
Encapsulation Impact Strength	ASTM D256 @ 24°C / 75°F	J/m <sup>2</sup>	No Break	No Break	No Break
Encapsulation Hardness	ASTM D2240	Shore	56	60	70
Encapsulation Specific Gravity	ASTM D792	g/cm <sup>3</sup>	2.15	2.15	1.7 – 1.8
Encapsulation % Elongation @ Break	ASTM D638 @ 24°C / 75°F	%	325	300	305
Encapsulation Flex Modulus	ASTM D790	PSI / Bar / Mpa	85,000 / 5,860 / 586	85,000 / 5,860 / 586	150,000 / 10,342 / 1200
Encapsulation Folding Endurance	ASTM D2176	Cycles	100,000	10,000	50,000+
Encapsulation Ignition Temperature	Vul045	°C / °F	≥530 / ≥986	≥530 / ≥986	≥500 / ≥932
Encapsulation Colour	Visual	N/A	Off Clear	Smoked / Clear	Smoked / Clear
Moisture Absorption	Vul046a	%	<0.01	<0.02	<0.015%

## FEP / PFA / Teftek® List of Compatible Chemicals

Acetaldehyde <200°F (93°C)	Ammonium Phosphates<40% <200°F (93°C)	Butyl Acetate <300°F (149°C)
Acetate Solvents	Ammonium Stearate	Butyl Alcohol <200°F (93°C)
Acetic Acid <40% <200°F (93°C)	Ammonium Sulphate <200°F (93°C)	Butyl Chloride, pure
Acetic Acid <5% <200°F (93°C)	Amyl Alcohol <200°F (93°C)	Butyl Citrate, pure
Acetic Acid >40% <200°F (93°C)	Amyl Chloride, pure	Butylaldehyde <200°F (93°C)
Acetic Acid Vapours	Aniline <400°F (204°C)	Butyric Acid <200°F (93°C)
Acetic Acid-Glacial (100%) <250°F (121°C)	Aniline Dyes <400°F (204°C)	Butyric Acid, pure
Acetic Anhydride <200°F (93°C)	Antimony trichloride	Calcium Bi-sulphite <250°F (121°C)
Aceto-acetic ester	Aqua Regia <150°F (66°C)	Calcium Carbonate <200°F (93°C)
Acetone <200°F (93°C)	Aroclor 1248 <350°F (177°C)	Calcium Chloride <200°F (93°C)
Acetophenone, pure	Aroclor 1248 >350°F (177°C)	Calcium Hydroxide <50% <200°F (93°C)
Acetyl salicylic acid	Aromatic solvents	Calcium Hypochlorite 70°F (21°C)
Acetylene	Arsenic Acid <200°F (93°C)	Calcium Nitrate <40% <200°F (93°C)
Acetylene <250°F (121°C)	Arsenic Trioxide <200°F (93°C)	Calcium Phosphate <10% <200°F (93°C)
Acid fumes	Ascorbic acid	Calcium Stearate <10% <200°F (93°C)
Acrylic Acid <150 (66°C)	Ascorbic Acid 70°F (21°C)	Calcium Sulphate <10% <200°F (93°C)
Acrylonitrile <200°F (93°C)	Ash Slurry	Cane Sugar <20%
Acrylonitrile, pure	Asphalt-Emulsified	Caprolactam
Adipic Acid <150°F (66°C)	Barium Chloride <60% <200°F (93°C)	Carbazole, pure
Alanine, pure	Barium Hydroxide <40% <200°F (93°C)	Carbon Dioxide (gas)
Aliphatic esters	Barium Nitrate <50% <200°F (93°C)	Carbon Dioxide (liquid)
Alkyl chlorides	Barium Sulphate <10% <200°F (93°C)	Carbon Disulphide, pure
Allyl Alcohol <200°F (93°C)	Beer	Carbon Monoxide
Allyl Chloride <200°F (93°C)	Benzaldehyde, pure	Carbon Tetrachloride 100% <200°F (93°C)
Alum Solution <10% 70°F (21°C)	Benzenamine, pure	Carbonic acid
Alum Solution >10%	Benzene (Benzol) <200°F (93°C)	Carbonic Acid <10% <200°F (93°C)
Aluminium Chloride <200°F (93°C)	Benzene Sulfonic Acid 70°F (21°C)	Castor Oil
Aluminium Hydrate, pure	Benzoic acid	Caustic soda & potash
Aluminium Hydroxide, pure	Benzoic Acid <200°F (93°C)	Cedarwood Oil, pure
Aluminium Sulphate <50% <200°F (93°C)	Benzyl Acetate, pure	Cellosolve® Acetate, pure
Aluminium sulphate	Benzyl Alcohol, pure	Cellulose paint
Aluminium Trihydrate, pure	Black Liquor, Sulphate <50%	Chlorate of Na, K, Ba
Amine (Services) <200°F (93°C)	Black Liquor, Sulphate >50%	Chlorides of Na, K, Ba
Amino Benzene Sulphuric Acid <200°F (93°C)	Boiler Feed Water	Chlorine (wet) <125°F (52°C)
Amino Benzoic Acid <200°F (93°C)	Bonderite Solution	Chlorine Dioxide <125°F (52°C)
Ammonia Anhydrous <300°F (149°C)	Boric Acid <50% <300°F (149°C)	Chlorine, Anhydrous <125°F (52°C)
Ammonia, Aqua <200°F (93°C)	Brine <200°F (93°C)	Chlorine, dry
Ammonia, pure	Brines, saturated	Chlorine, wet
Ammonium Salts, pure	Bromide (K) solution	Chloroacetic acid
Ammonium Bi-fluoride <150°F (66°C)	Bromine (dry) 100% <150°F (66°C)	Chloroacetic Acid <90% <150°F (66°C)
Ammonium Carbamate <150°F (66°C)	Bromine (wet) <200°F (93°C)	Chloroacetic Acid >90% <150°F (66°C)
Ammonium Carbonate <200°F (93°C)	Bromoform, pure	Chlorobenzene <90% <150°F (66°C)
Ammonium Glycolate, pure	Bunker "C" Fuel Oil	Chlorobenzene >90% <150°F (66°C)
Ammonium Hydroxide <200°F (93°C)	Butadiene <200°F (93°C)	Chloroform 100% 70°F (21°C)
Ammonium Nitrate <200°F (93°C)	Butane (gas) <300°F (149°C)	Chloroform <200°F (93°C)
Ammonium Oxalate, pure	Butane (liquid) <300°F (149°C)	Chloropicrin 100% <200°F (93°C)

Chlorosulphonic Acid >20% <200°F (93°C)	Diatomaceous Earth/Water >10%	Ethane
Chlorosulphonic acid	Dibutyl Ether <200°F (93°C)	Ethanol (Ethyl Alcohol) <200°F (93°C)
Chromic Acid <20% <150°F (66°C)	Dibutyl Phthalate <212°F (100°C)	Ethanol (Fuel Grade w/ 5% Gasoline)
Chromic acid (80%)	Dibutylamine <100°F (38°C)	Ethanolamine (MEA) <200°F (93°C)
Cinnamaldehyde, pure	Dichlorobenzene 100% <200°F (93°C)	Ether, Ethyl
Cinnamic Aldehyde, pure	Dichloroethane 70°F (21°C)	Ether, pure
Cinnamon Oil, pure	Dichloroethylene	Ethyl Acetate <300°F (149°C)
Citric acid	Dichlorohydrin <200°F (93°C)	Ethyl Alcohol (Ethanol) <200°F (93°C)
Citric Acid >50% <212°F (100°C)	Diesel Fuel	Ethyl Benzene <200°F (93°C)
Citric Acid <50% <212°F (100°C)	Diethanolamine (DEA) <200°F (93°C)	Ethyl Benzoate, pure
Clay Slurry	Diethyl Carbonate <125°F (52°C)	Ethyl Bromide <100°F (38°C)
Coal Tar	Diethyl Ether <200°F (93°C)	Ethyl Butyrate, pure
Condensate <250°F (121°C)	Diethyl Ketone, pure	Ethyl Cellulose
Cooling Tower Water	Diethyl Malonate, pure	Ethyl Chloride 100%
Copper Acetate <20% <200°F (93°C)	Diethylamine <200°F (93°C)	Ethyl Cyanoacetate, pure
Copper Acetate >20% <200°F (93°C)	Diethylamine, pure	Ethyl Lactate, pure
Copper Ammonia Acetate <150°F (66°C)	Diethylene Dioxide, pure	Ethyl Sulphate
Copper Chloride <100°F (38°C)	Diethylene Glycol <300°F (149°C)	Ethylene
Copper Cyanide <10% <200°F (93°C)	Diethylene Triamine <200°F (93°C)	Ethylene Chloride, pure
Copper Cyanide >10% <200°F (93°C)	Di-Isobutyl Ketone <200°F (93°C)	Ethylene Dichloride
Copper Nitrate <10% <200°F (93°C)	Di-Isopropyl Ether, pure	Ethylene Glycol <300°F (149°C)
Copper Nitrate >10% <200°F (93°C)	Di-Isopropyl Ketone	Ethylene Oxide <200°F (93°C)
Copper Sulphate <60% <200°F (93°C)	Dimethyl Acetamide, pure	Ethylene Trichloride 70°F (21°C)
Corn Oil	Dimethyl Formamide (DMF) <400°F (204°C)	Fatty Acids, Saturated, pure
Corn Syrup (glucose)	Dimethyl Formamide, pure	Fatty Acids, Unsaturated, pure
Cotton Seed Oil	Dimethyl Hydrazine (UDMM) <100°F (38°C)	Ferric chloride
Creosote <200°F (93°C)	Dimethyl Ketone, pure	Ferric Chloride <125°F (52°C)
Cresylic Acid	Dimethyl Terephthalate (DMT)	Ferric Hydroxide <175°F (79°C)
Crude Oil	Dimethylamine <200°F (93°C)	Ferric Nitrate <125°F (52°C)
Cumene <200 (93°C)	Dimethylsulfoxide, pure	Ferric Sulphate <125°F (52°C)
Cutting Oil (abrasive)	Dinitrochlorobenzene (DMCB) <200°F (93°C)	Ferrous Chloride <50% <175°F (79°C)
Cutting Oil (clean)	Diocetyl Phthalate <200°F (93°C)	Ferrous Sulphate <175°F (79°C)
Cyanoethylene, pure	Diocetylamine <200°F (93°C)	Ferrous sulphate
Cyclohexane <200°F (93°C)	Dioxane, pure	Fluorides, pure
Cyclohexanol <200°F (93°C)	DIPE, pure	Fluorinated refrigerants
Cyclohexanone <200°F (93°C)	Diphenyl <500°F (260°C)	Fluosilicic acid
Cyclohexanone, pure	Dipropylene Glycol, pure	Fluosilicic Acid 70°F (21°C)
Cyclopentane, pure	Distilled Water	Formaldehyde <40% <200°F (93°C)
De-Butanizer Reflux	DMSO, pure	Formaldehyde >40% <200°F (93°C)
Decahydronaphthalene, pure	Dow Corning Silicone Fluids	Formaldehyde (40%)
Decalin, pure	Dowtherm A <400°F (204°C)	Formamide <200°F (93°C)
De-Ethanizer Reflux	Dowtherm G <400°F (204°C)	Formic Acid <160°F (71°C)
De-Propanizer Reflux	Dowtherm H <400°F (204°C)	Freon 11 & Refrig. Oil
Detergents, synthetic	Dowtherm LF <400°F (204°C)	Freon 112 & Refrig. Oil
Dextrose <200°F (93°C)	Dye Liquors	Freon 113 & Refrig. Oil
Dextrose >200°F (93°C)	Emulsifiers, concentrated	Freon 114 & Refrig. Oil
Diacetone Alcohol <200°F (93°C)	Epichlorohydrin <200°F (93°C)	Freon 115 & Refrig. Oil
Diatomaceous Earth/Water <10%	Epsom Salt <40%	Freon 12 & Refrig. Oil

Freon 13 & Refrig. Oil	Hydrofluoric Acid <125°F (52°C)	Latex, Emulsion
Freon 14 & Refrig. Oil	Hydrofluoric acid (40%)	Lead Acetate <200°F (93°C)
Freon 21 & Refrig. Oil	Hydrofluoric acid (75%)	Lead Chloride <200°F (93°C)
Freon 22 & Refrig. Oil	Hydrogen (gas)	Lead Nitrate <200°F (93°C)
Freon 31 & Refrig. Oil	Hydrogen Cyanide <200°F (93°C)	Lead perchlorate
Freon 32 & Refrig. Oil	Hydrogen Peroxide <200°F (93°C)	Levulinic Acid <200°F (93°C)
Fruit Juices	Hydrogen peroxide (30%)	Lime (CaO)
Fuel Oil	Hydrogen peroxide (30-90%)	Lime Slurry <50% <200°F (93°C)
Furfural <20% <200°F (93°C)	Hydrogen Sulphide (wet) <125°F (52°C)	Linseed Oil <400°F (204°C)
Furfural >20% <200°F (93°C)	Hydrogen Sulphide 100% <125°F (52°C)	Liquidified Natural Gas (LNG)
Furfuryl Alcohol <200°F (93°C)	Hydrogen Sulphide 100% 70°F (21°C)	Liquidified Petroleum Gas (LPG)
Gas Oil	Hydrogen Sulphide	Lithium Chloride <212°F (100°C)
Gasoline w/ <20% MTBE	Hypochlorites	Lithium Hydroxide <212°F (100°C)
Gasoline, pure	Hypochlorites (Na 12-14%)	L-Tartaric Acid, pure
Gelatin <200°F (93°C)	Hypochlorous Acid 70°F (21°C)	Lubricating Oil
Gelatine	Iodine (wet) <100°F (38°C)	Magnesium Chloride <200°F (93°C)
Glacial Acetic Acid <150°F (66°C)	Iodine Crystals, pure	Magnesium Hydroxide
Glaubers Salt	Iodoform <125°F (52°C)	Magnesium Nitrate <150°F (66°C)
Glaubers Salt (Sodium Sulphate)	Isobutane <200°F (93°C)	Magnesium Sulphate <40% <150°F (66°C)
Glucose	Isobutanol, pure	Maleic acid
Glue Sizing	Isobutyl Acetate <200°F (93°C)	Maleic Acid <150°F (66°C)
Glues	Isobutyl Alcohol	Maleic Anhydride <350°F (177°C)
Glutaraldehyde Disinfectant, pure	Isobutyl Methyl Ketone <200°F (93°C)	Malic Acid <50% <212°F (100°C)
Glutaraldehyde, pure	Iso-butyl-acetate	Manganate, potassium (K)
Glycerine (Glycerol) <200°F (93°C)	Isobutylaldehyde	Manganese Chloride <50% <200°F (93°C)
Glycerol, pure	Isobutylene Glycol	Manganese Sulphate <200°F (93°C)
Glycol, ethylene	Isopentane	Meat juices
Glycolic acid	Isopropanol <200°F (93°C)	MEK, pure
Green Sulphate Liquor-Clarified	Isopropyl Acetate <200°F (93°C)	Mercaptans 100% 70°F (21°C)
Green Sulphate Liquor-w/Dregs	Isopropyl Alcohol	Mercuric Chloride <30% <150°F (66°C)
Heptane (gas) <200°F (93°C)	Isopropyl Benzene, pure	Mercury <150°F (66°C)
Heptane (liquid) <200°F (93°C)	Isopropyl Ether, pure	Methane (liquid)
Hexamethylene diamine	Isopropylamine	Methane (gas)
Hexamine	Jet Fuel JP-10	Methanol
Hexane (gas) <200°F (93°C)	Jet Fuel JP-3	Methanol <200°F (93°C)
Hexane (liquid) <200°F (93°C)	Jet Fuel JP-4	Methoxyethyl Oleate, pure
Hexanol <200°F (93°C)	Jet Fuel JP-5	Methyl Acetate <200°F (93°C)
Hydrated Alumina, pure	Jet Fuel JP-6	Methyl Acrylate <200°F (93°C)
Hydrazine <150°F (66°C)	Jet Fuel JP-8	Methyl Alcohol, pure
Hydrobromic Acid <200°F (93°C)	Jet Fuel JP-9	Methyl Bromide (gas)
Hydrobromic acid (50%)	Jet Fuel JP-911	Methyl Chloride <125°F (52°C)
Hydrochloric Acid <10% 70°F (21°C)	Kaolin Slurry (Clay Slurry)	Methyl Ethyl Ketone 100% <150°F (66°C)
Hydrochloric Acid <2% <125°F (52°C)	Kerosene	Methyl Ethyl Ketone (MEK) <150°F (66°C)
Hydrochloric Acid <37% <125°F (52°C)	Lacquers (MEK Solvent)	Methyl Isobutyl Ketones (MIBK) <150°F (66°C)
Hydrochloric acid (10%)	Lactic Acid <150°F (66°C)	Methyl Methacrylate <125°F (52°C)
Hydrochloric acid (conc.)	Lactic acid (90%)	Methyl Propyl Ketone, pure
Hydrocyanic acid	L-alpha-amino Propionic Acid, pure	Methylene Chloride <125°F (52°C)
Hydrocyanic Acid <200°F (93°C)	Lard	Methylene Dichloride <125°F (52°C)

Methyloxirane, pure	Oil, Mineral, pure	Phosphorous chlorides
Methyl-Tert-Butyl-Ether(MTBE) <200°F (93°C)	Oil, Orange, pure	Phosphorous Oxychloride <200°F (93°C)
MIBK, pure	Oil, Pine, pure	Phosphorous pentoxide
Milk products	Oleic Acid <150°F (66°C)	Phthalic acid
Mineral Oil	Oleum <125°F (52°C)	Phthalic Acid <400°F (204°C)
Mineral Spirits	Olive Oil	Phthalic Anhydride <400°F (204°C)
Moist air	Orange Oil, pure	Phthalic Anhydride (Crude) <400°F (204°C)
Molasses	Orthoarsenic Acid, pure	Picric Acid <200°F (93°C)
Monoethanolamine	Oxalic acid	Picric Acid, pure
Monoethanolamine (MEA) <200°F (93°C)	Oxalic Acid <125°F (52°C)	Pine Oil, pure
Muriatic Acid <125°F (52°C)	Oxygen (Dry Gas)	Plating Solution - Chrome
Naphtha	Oxygen (Wet)	Plating Solution - Nickel/Copper
Naphthalene <400°F (204°C)	Ozone	Polybutadiene (Rubber)
Naphthalene Chloride <200°F (93°C)	Ozone (Wet)	Polyethylene
Naphthenic Acid <300°F (149°C)	Ozone, pure	Polyethylene Glycol
Naptha	Palm Oil	Polypropylene Glycol
Napthalene	Palmitic Acid <400°F (204°C)	Polystyrene
N-Butanol, pure	Paper Stock	Potash <200°F (93°C)
N-Butyl Acetate, pure	Paracymene 70°F (21°C)	Potassium Bicarbonate <30% <212°F (100°C)
N-Butyl Alcohol, pure	Paraffin wax	Potassium Bicarbonate >30% <212°F (100°C)
N-Decane, pure	Paraffin, Molten	Potassium Carbonate <200°F (93°C)
N-Heptane, pure	Paraformaldehyde <30% <350°F (177°C)	Potassium Chloride <30% <200°F (93°C)
Nickel Chloride <80% <212°F (100°C)	Paraldehyde <200°F (93°C)	Potassium Cyanide <200°F (93°C)
Nickel Plating Solution	p-Chloroacetophenone, pure	Potassium Hydroxide <300°F (149°C)
Nickel salts	p-Dichlorobenzene, pure	Potassium Hydroxide <40% 70°F (21°C)
Nickel Sulphate <40% <125°F (52°C)	Peanut Oil	Potassium Nitrate <200°F (93°C)
Nitrates of Na, K and NH3	Pectin Liquor	Potassium Permanganate <200°F (93°C)
Nitric Acid 70°F (21°C)	Penicillin	Potassium Phosphate <200°F (93°C)
Nitric Acid <20% 70°F (21°C)	Pentane (Gas) <200°F (93°C)	Potassium Silicate <200°F (93°C)
Nitric Acid <60% <170°F (77°C)	Pentane (Liquid) <200°F (93°C)	Potassium Sulphate <200°F (93°C)
Nitric Acid <70% 70°F (21°C)	Pentyl acetate, pure	Propane (Gas)
Nitric Acid <80% <125°F (52°C)	Perchloric acid	Propane (Liquid)
Nitric acid (>25%)	Perchloric Acid, pure	Propionaldehyde <150°F (66°C)
Nitric acid (50%)	Perchloroethylene 100% <200F (93°C)	Propionic Acid <150°F (66°C)
Nitric acid (90%)	Peroxide of Hydrogen <200°F (93°C)	Propyl Acetate <150°F (66°C)
Nitric acid (fuming)	Persulphuric Acid <250°F (121°C)	Propyl Alcohol (Propanol) <200°F (93°C)
Nitrite (Na)	Petroleum Ether	Propylene (Gas)
Nitrobenzene	Petroleum Oil	Propylene (Liquid)
Nitroethane	Phenol	Propylene Glycol
Nitrogen (Gas)	Phenyl Acetic Acid <200°F (93°C)	Propylene Oxide <200°F (93°C)
Nitrogen (Liquid)	Phenyl Methyl Ketone, pure	PVC (Polyvinyl Chloride)
Nitrohydrochloric Acid, pure	Phenylacrolein, pure	Pyridine <212°F (100°C)
Nitromethane	Phosgene <300°F (149°C)	Rosin - Paper Mill <400°F (204°C)
Nitropropane	Phosphoric Acid <200°F (93°C)	Rosin Size <350°F (177°C)
Nitrous Acid <200°F (93°C)	Phosphoric Acid <85% <150°F (66°C)	Salicylic Acid <200°F (93°C)
N-Octane, pure	Phosphoric acid (20%)	Sea water
Oil, Cedarwood, pure	Phosphoric acid (50%)	Sea Water <200°F (93°C)
Oil, Cinnamon, pure	Phosphoric acid (95%)	Sec-Butanol, pure

Sec-Butyl Alcohol, pure	Styrene <200°F (93°C)	Tris Buffer Solution, pH 7.0, pure
Sewage	Succinic Acid <200°F (93°C)	Trisodium Phosphate, pure
Sewage Sludge	Sugar Solution (Sucrose) <200°F (93°C)	Tung Oil
Silicic acid	Sugar Solution (Sucrose) >200°F (93°C)	Turpentine
Silicone Oils	Sugar, syrups & jams	Ucon Oils
Silver Chloride 70°F (21°C)	Sulphur - Molten <400°F (204°C)	Urea <350°F (177°C)
Silver nitrate	Sulphur Dioxide - Wet <200°F (93°C)	Vegetable Oil <300°F (149°C)
Silver Nitrate <60% 70°F (21°C)	Sulphur Salts, pure	Vinegar
Skydrol LD4 Aviation Hydraulic Fluid, pure	Sulphuric Acid 0-90% <125°F (52°C)	Vinyl Acetate <300°F (149°C)
Soap Liquors	Sulphuric Acid 60-70% 300°F (149°C)	Vinyl Chloride <125°F (52°C)
Soda Ash <200°F (93°C)	Sulphuric Acid 90-100% <125°F (52°C)	Vinyl Cyanide, pure
Sodium Acetate <200°F (93°C)	Sulphuric Acid - Oleum <125°F (52°C)	Water - Boiler Feed
Sodium Bicarbonate <20% <212°F (100°C)	Sulphurous Acid <150°F (65°C)	Water - Borated <300°F (149°C)
Sodium Sulphite <200°F (93°C)	Syrup (Sucrose Solution) >200°F (93°C)	Water - Brackish <200°F (93°C)
Sodium Borate(Borax) <200°F (93°C)	Tall Oil <350°F (177°C)	Water - Clean
Sodium Bromide <200°F (93°C)	Tallow	Water - Condensate <250°F (121°C)
Sodium carbonate	Tannic Acid <200°F (93°C)	Water - Cooling Tower
Sodium Carbonate <200°F (93°C)	Tannic acid (10%)	Water - Deionized
Sodium Chlorate <140°F (60°C)	Tar Bituminous	Water - De-mineralized
Sodium Chloride <200°F (93°C)	Tartaric acid	Water - Distilled
Sodium Chromate <140°F (60°C)	Tartaric Acid <150°F (65°C)	Water - Heavy
Sodium Cyanide <200°F (93°C)	TCA, pure	Water - River or Lake, Fresh
Sodium Ferricyanide <200°F (93°C)	tert-Butanol, pure	Water - Sea <200°F (93°C)
Sodium Hydro-sulphide <200°F (93°C)	tert-Butyl Alcohol, pure	Water - Sour
Sodium Hydroxide <40% 70°F (21°C)	Tetrachlorethylene 100% <250°F (121°C)	Water - W/Oil
Sodium Hydroxide 1- 20% <250°F (121°C)	Tetrachloroethane 100%	Water, distilled
Sodium Hydroxide 21-50% <250°F (121°C)	Tetraethyl Lead	Water, hard
Sodium Hydroxide 51- 70% <250°F (121°C)	Tetrahydrofuran (THF) <100°F (38°C)	Water, soft
Sodium Hypochlorite <125°F (52°C)	Therminols	Whiskey
Sodium Meta-silicates <200°F (93°C)	Thionyl Chloride, pure	White Liquor - Clarified <300°F (149°C)
Sodium Nitrate <212°F (100°C)	Tincture of Iodine, pure	White Liquor - Unclarified <300°F (149°C)
Sodium Nitrite <200°F (93°C)	Titanium Dioxide Slurry <10%	White Spirits, pure
Sodium Perchlorate <200°F (93°C)	Titanium Dioxide Slurry >10%	White Water - Calcium
Sodium peroxide	Titanium Tetrachloride <100°F (38°C)	White Water - Caustic
Sodium Phosphate-Di <200°F (93°C)	Toluene	White Water - Chlorine Dioxide
Sodium Phosphate-Mono <200°F (93°C)	Transformer Oil	White Water - Paper Machine
Sodium Phosphate-Tri <200°F (93°C)	Transmission Fluid	Wine
Sodium Silicate <200°F (93°C)	Tribromomethane, pure	Wort
Sodium Sulphate <200°F (93°C)	Tributyl Citrate, pure	Xylene (Xylol) <350°F (177°C)
Sodium Sulphide <200°F (93°C)	Trichloroacetic Acid <200°F (93°C)	Yeast
Sodium Sulphite <200°F (93°C)	Trichlorobenzene 100% <300°F (149°C)	Yeast - Torula <150°F (66°C)
Sodium sulphide	Trichloroethane 100% <200°F (93°C)	Yeast - Wort <150°F (66°C)
Sodium Thiosulphate <200°F (93°C)	Trichloroethylene 100% <200°F (93°C)	Zinc Chloride
Soy bean Oil	Triethanolamine (TEA) <200°F (93°C)	Zinc Cyanide
Stannic Chloride	Triethylene Glycol, pure	Zinc Nitrate
Starch	Trimethyl Amine (TMA) <200°F (93°C)	Zinc Phosphate Solution <20% <150°F (66°C)
Stearic Acid <150°F (65°C)	Tripropylene Glycol, pure	Zinc Sulphate <200°F (93°C)
Stoddard Solution	Tris Buffer Solution, pH 11, pure	