



HOMOPOLYMER

Chemical Resistance Guide for Waste Drainage Systems



Listed in ICC ES PMG 1060
and in IAPMO UNIFORM ES 0250 as compliant
to ASTM F 1673 and ASTM E 84 25/50

KYNAR® POLYVINYLIDENE FLUORIDE (PVDF) RESIN

Kynar® polyvinylidene fluoride (PVDF) resin is a tough engineering thermoplastic that offers a unique balance of performance properties. It has the characteristic stability of fluoropolymers when exposed to harsh thermal, chemical and ultraviolet environments.

For chemical and high temperature resistance, low permeability and high mechanical strength, Kynar® PVDF resin is used as a contact surface for the production, storage and transfer of corrosive fluids. Kynar® PVDF resin is used in mechanical components, fabricated vessels, tanks, pumps, valves, filters, heat exchangers, tower packing, piping systems, as well as other applications.



Steiner Tunnel used for ASTM E-84 Testing

Corrosive Waste Drainage and Plenum Applications

Select grades of Kynar® PVDF resin easily achieve the flame spread/smoke developed rating of 25/50 when tested in accordance with ASTM E-84. This enables Kynar® PVDF resin pipe to be used in the plenum for applications such as corrosive waste drainage and laboratory chemical systems.

These Kynar® PVDF resins are designed especially for harsh environments such as those of restrictive return air plenums and corrosive chemical waste streams. These environments are generally found in:

- Pharmaceutical industries
- Chemical industries
- College laboratories
- High school laboratories
- Hospital laboratories
- Food and Beverage Facilities

Independent testing of Kynar® PVDF resin has confirmed the resin and the piping fabricated from the resin meet the International Mechanical Code (IMC) requirements for material installed in the plenum.

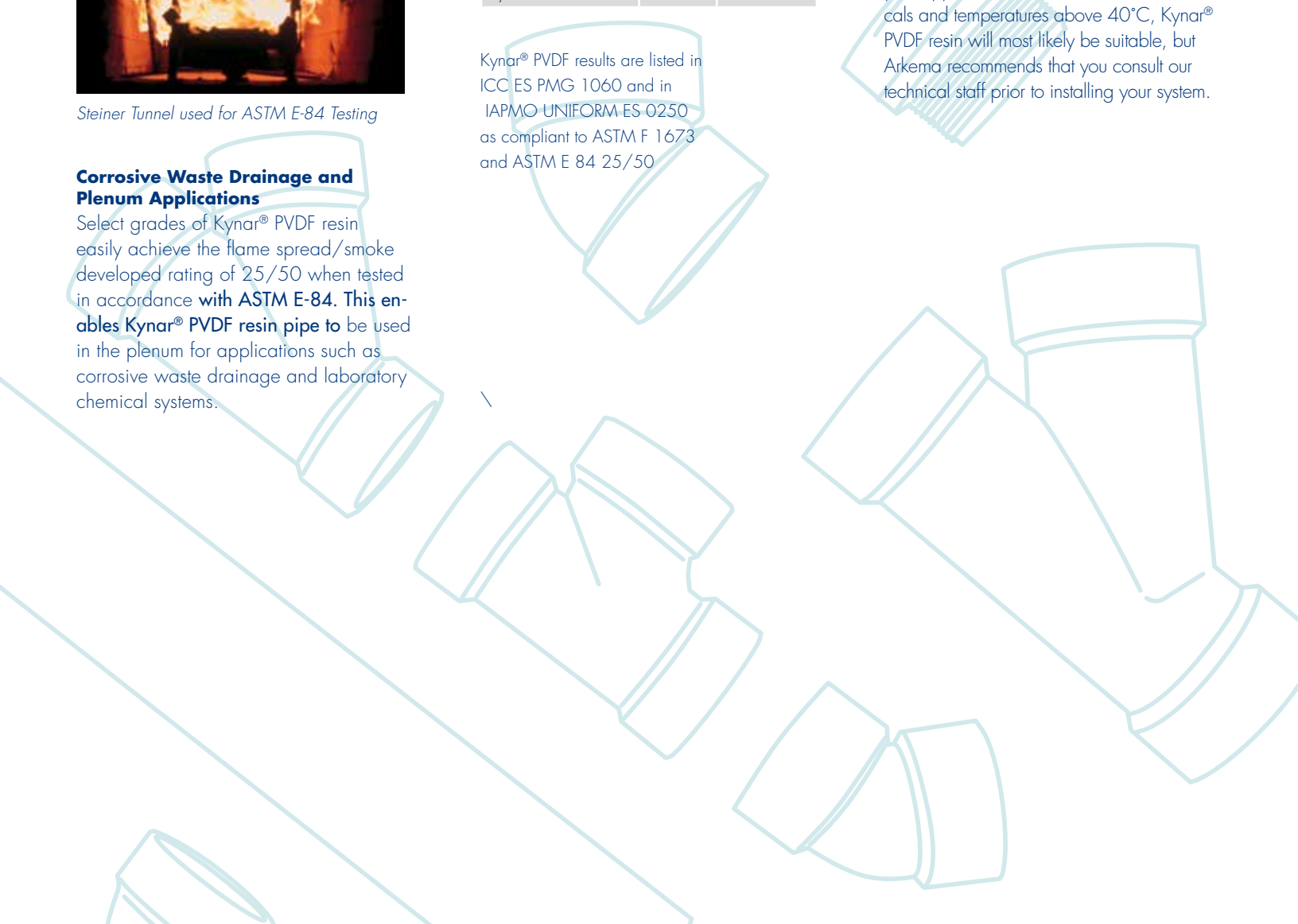
Material	Flame Spread Rating	Smoke Developed Rating
NFPA & IMC Plenum Requirement	25	50
Kynar® PVDF 740-02	5	35
Kynar® PVDF 1000HD	0	10

Kynar® PVDF results are listed in ICC ES PMG 1060 and in IAPMO UNIFORM ES 0250 as compliant to ASTM F 1673 and ASTM E 84 25/50

In addition to its notable fire and smoke characteristics, Kynar® PVDF resin has these important properties:

- Mechanical strength and toughness
- High abrasion resistance
- High thermal stability
- High dielectric strength
- High purity
- Readily melt processable
- Resistant to most chemicals and solvents
- Resistant to ultraviolet and nuclear radiation
- Resistant to weathering
- Resistant to fungi
- Low permeability to most gases and liquids
- Low flame and smoke characteristics

The following pages list the guidelines for using Kynar® PVDF products in chemical waste drainage applications. Kynar® PVDF resin is suitable for short-term contact with many chemicals up to 150°C (300°F). If your application involves mixtures of chemicals and temperatures above 40°C, Kynar® PVDF resin will most likely be suitable, but Arkema recommends that you consult our technical staff prior to installing your system.



Rating for Low Pressure Drainage System

Chemical Substance	Concentration*	Rating
Acetaldehyde		A-
Acetamide		A-
Acetic Acid		A
Acetic Acid	10% in water	A+
Acetic Acid	50% in water	A+
Acetic Acid	80% in water	A+
Acetic Anhydride		A-
Acetone		A-
Acetone	10% in water	A
Acetonitrile		A-
Acetophenone		A-
Acetyl Bromide		A
Acetyl Chloride		A
Acetylacetone		A-
Acetylene		A+
Acrylonitrile		A-
Adipic Acid		A+
Air		A+
Alcoholic Spirits	40% Ethyl Alcohol	A+
Allyl Alcohol		A+
Allyl Chloride		A+
Aluminum Acetate	Aqueous solution or solid	A+
Aluminum Bromide		A+
Aluminum Chloride	Up to 40% in water	A+
Aluminum Fluoride	Aqueous solution or solid	A+
Aluminum Hydroxide		A+
Aluminum Nitrate	Aqueous solution or solid	A+
Aluminum Oxychloride		A+
Aluminum Sulfate	Aqueous solution or solid	A+
Ammonia, gas		A-
Ammonia, Liquid		A
Ammonium Acetate	Aqueous solution or solid	A+
Ammonium Alum	Aqueous solution or solid	A+
Ammonium Bifluoride	Aqueous solution or solid	A+
Ammonium Bromide	Aqueous solution or solid	A+
Ammonium Carbonate	Aqueous solution or solid	A+
Ammonium Chloride	Aqueous solution or solid	A+
Ammonium Dichromate	Aqueous solution or solid	A+
Ammonium Fluoride	Aqueous solution or solid	A+
Ammonium Hydroxide	Up to "concentrated"	A+
Ammonium Metaphosphate	Aqueous solution or solid	A+
Ammonium Nitrate	Aqueous solution or solid	A+
Ammonium Persulfate	Aqueous solution or solid	A
Ammonium Phosphate	Aqueous solution or solid	A+
Ammonium Sulfate	Aqueous solution or solid	A+
Ammonium Sulfide	Aqueous solution or solid	A+
Ammonium Thiocyanate	Aqueous solution or solid	A+
Amyl Acetate		A
Amyl Alcohol		A+
Sec-Amyl Alcohol		A
Amyl Chloride		A+
Aniline		A-
Aniline Hydrochloride	Aqueous solution or solid	A-
Aqua Regia		A
Arsenic acid	Aqueous solution	A+
Asphalt		A+
Barium Carbonate		A+
Barium Chloride	Aqueous solution or solid	A+
Barium Hydroxide		A+
Barium Nitrate	Aqueous solution or solid	A+
Barium Sulfate		A+
Barium Sulfide		A+
Beer		A+
Beet Sugar Liquors		A+

Chemical Substance	Concentration*	Rating
Benzaldehyde		A-
Benzene		A+
Benzenesulfonic Acid	Aqueous solution or solid	A+
Benzoic Acid		A+
Benzoyl Chloride		A+
Benzoyl Peroxide		A+
Benzyl Alcohol		A+
Benzyl Chloride		A+
Benzyl Ether		A-
Benzylamine	Aqueous solution or liquid	A-
Black Liquor		A+
Bleaching Agents		A+
Borax		A+
Boric Acid		A+
Boron Trifluoride		A+
Brine		A+
Brine, acid		A+
Brine, basic		A+
Brine, chlorinated acid		A+
Bromic Acid	Aqueous solution	A+
Bromine dry gas		A+
Bromine, liquid		A+
Bromine, water		A+
Bromobenzene		A+
Bromoform		A+
m-Bromotoluene		A+
Butadiene		A+
Butane		A+
Butanediol	Aqueous solution or liquid	A+
Butyl Acetate		A-
Butyl Acrylate		A
Butyl Alcohol	Aqueous solution or liquid	A+
sec-Butyl Alcohol	Aqueous solution or liquid	A+
t-Butyl Alcohol	Aqueous solution or liquid	A+
Butyl Bromide		A+
Butyl Chloride		A+
Butyl Ether		A-
Butyl Mercaptan		A+
Butyl Stearate		A
Butylamine	Aqueous solution or liquid	A-
sec-Butylamine	Aqueous solution or liquid	A-
t-Butylamine	Aqueous solution or solid	A-
1-Butylene		A+
Butylphenol		A+
Butyraldehyde		A
Butyric Acid		A+
Calcium Acetate	Aqueous solution or solid	A+
Calcium Bisulfate	Aqueous solution or solid	A+
Calcium Bisulfite	Aqueous solution or solid	A+
Calcium Bromide	Aqueous solution or solid	A+
Calcium Carbonate		A+
Calcium Chlorate	Aqueous solution or solid	A+
Calcium Chloride	Aqueous solution or solid	A+
Calcium Hydroxide		A+
Calcium Hypochlorite	Aqueous solution or solid	A+
Calcium Nitrate	Aqueous solution or solid	A+
Calcium Oxide		A+
Calcium Phosphate		A+
Calcium Sulfate		A+
Cane Sugar Liquors		A+
Caprylic Acid		A+
Carbon Dioxide		A+
Carbon Disulfide		A
Carbon Monoxide		A+

Guidelines for using Kynar® PVDF products in chemical waste drainage.

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* pure substance unless otherwise indicated.

A+: Suitable for elevated temperatures varying with chemical in question.

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A-: Suitable for short term use at full strength under ambient conditions, and suitable for continuous use at ambient conditions in diluted form.

B: Suitable for short term use if concentration will be less than 100%, please contact Arkema technical staff for assessment of a safe concentration at maximum exposure temperature.

Rating for Low Pressure Drainage System

Chemical Substance	Concentration*	Rating	Chemical Substance	Concentration*	Rating
Carbon Tetrachloride		A+	Dibutyl Sebacate		B
Carbonic Acid		A+	Dibutylamine	Aqueous solution or liquid	A-
Casein		A+	Dichloroacetic Acid	Aqueous solution or liquid	A+
Castor Oil		A+	o-Dichlorobenzene		A+
Chloral Hydrate		A	Dichlorodimethylsilane		A+
Chlorinated Phenol		A+	Dichloroethylene		A+
Chlorine	5% in CCl4	A+	2,2-Dichloropropionic Acid		A
Chlorine, gas		A+	aa-Dichlorotoluene		A+
Chlorine, liquid		A+	Diesel Fuels		A+
Chlorine Dioxide		A+	Diethanolamine	Aqueous solution or liquid	A-
Chlorine Water		A+	Diethylamine	Aqueous solution or liquid	A-
Chloroacetic Acid	Aqueous solution or pure	A	Diethyl Malonate		B
Chloroacetyl Chloride		A	Diethylenetriamine	Aqueous solution or liquid	A-
Chlorobenzene		A+	Diglycolic Acid		A
Chlorobenzene-sulfonic Acid	Aqueous solution or pure	A+	Diisobutyl Ketone		A-
Chlorobenzyl Chloride		A+	Diisobutylene		A+
Chlorofluorocarbon 11		A+	Diisopropyl Ketone		A-
Chlorofluorocarbon 12		A+	Dimethyl Acetamide		B
Chlorofluorocarbon 13		A+	Dimethyl Formamide		A-
Chlorofluorocarbon 14		A+	Dimethyl Phthalate		A-
Chlorofluorocarbon 21		A+	Dimethyl Sulfate		A-
Chlorofluorocarbon 22		A+	Dimethyl Sulfoxide		A-
Chlorofluorocarbon 113		A+	Dimethylamine	Aqueous solution or gas	A-
Chlorofluorocarbon 114		A+	Dimethylaniline		A-
Chloroform		A+	2,6-Dimethyl-4-heptanol		A+
6-Chlorohexanol		A+	2,5-Dimethyl-1,5-hexadiene		A+
Chlorohydrin		A+	Diethyl Phthalate		A-
Chloropicrin		A+	Dipropylene Glycol Methyl Ether		A-
Chlorosulfonic Acid		A	Disodium Phosphate	Aqueous solution or solid	A+
Chlorotrimethylsilane		A	Divinyl Benzene		A
Chrome Alum	Aqueous solution or solid	A+	Epichlorohydrin		A-
Chromic Acid	Up to 40% in water	A+	Epsom Salts	Aqueous solution or solid	A+
Chromic Acid	50% in water	A+	Ethanolthiol		A
Chromyl Chloride		A+	Ethanolamine	Aqueous solution or liquid	A-
Cider		A+	2-Ethoxyethyl Acetate	Aqueous solution or liquid	A+
Citric Acid	Aqueous solution or solid	A+	Ethyl Acetate		A-
Coal Gas		A+	Ethyl Acetoacetate		A-
Coconut Oil		A+	Ethyl Acrylate		A-
Copper Acetate		A+	Ethyl Alcohol	Aqueous solution or liquid	A+
Copper Carbonate, basic		A+	Ethyl Chloride		A+
Copper Chloride	Aqueous solution or solid	A+	Ethyl Chloroacetate		A-
Copper Cyanide		A+	Ethyl Chloroformate		A
Copper Fluoride		A+	Ethyl Cyanoacetate		A
Copper Nitrate	Aqueous solution or solid	A+	Ethyl Ether		A
Copper Sulfate	Aqueous solution or solid	A+	Ethyl Formate		A-
Corn Oil		A+	Ethylbenzene		A+
Corn Syrup		A+	Ethylene Chlorohydrin	Aqueous solution or liquid	A
Cottonseed Oil		A+	Ethylene Dichloride		A+
Cresol		A+	Ethylene Glycol	Aqueous solution or liquid	A+
Cresylic Acid		A+	Ethylene Oxide		A+
Crotonaldehyde		A	Ethylenediamine	Aqueous solution or liquid	A
Crude Oil		A+	2-Ethyl-1-hexanol		A+
Cryolite		A+	Fatty Acids		A+
Cuprous Chloride		A+	Fatty Acids, Sulfonates		A+
Cyclohexane		A+	Ferric Chloride	Aqueous solution or solid	A+
Cyclohexanol		A+	Ferric Hydroxide		A+
Cyclohexanone		A	Ferric Nitrate	Aqueous solution or solid	A+
Cyclohexyl Acetate		A+	Ferric Sulfate		A+
Decane		A+	Ferric Sulfide		A+
Dextrin	Aqueous solution or solid	A+	Ferrous Chloride	Aqueous solution or solid	A+
Diacetone Alcohol		A-	Ferrous Hydroxide		A+
p-Dibromobenzene		A+	Ferrous Nitrate	Aqueous solution or solid	A+
1,2-Dibromopropane		A+	Ferrous Sulfate		A+
Dibutyl Phthalate		A-	Fluorine		A

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Rating for Low Pressure Drainage System

Chemical Substance	Concentration*	Rating	Chemical Substance	Concentration*	Rating
Fluoroboric Acid	Aqueous solution	A+	Lanolin		A+
Fluorosilic Acid		A+	Lard Oil		A+
Formaldehyde	37% in water	A	Lauric Acid		A+
Formic Acid	Aqueous solution or liquid	A+	Lauroyl Chloride		A+
Fructose	Aqueous solution or solid	A+	Lauryl Mercaptan		A+
Fruit Juices, Pulp		A+	Lauryl Sulfate		A+
Fuel Oil		A+	Lead Acetate	Aqueous solution or solid	A+
Fumaric Acid		A+	Lead Chloride		A+
Furan		A-	Lead Nitrate	Aqueous solution or solid	A+
Furfural		A	Lead Sulfate		A+
Furfuryl Alcohol	Aqueous solution or liquid	A	Lemon Oil		A+
Gallic Acid		A	Linoleic Acid		A+
Gas, manufactured		A+	Linseed Oil		A+
Gas, natural		A+	Lithium Bromide	Aqueous solution or solid	A+
Gasoline, leaded		A+	Lithium Chloride	Aqueous solution or solid	A+
Gasoline, sour		A+	Lubricating Oil		A+
Gasoline, unleaded		A+	Magnesium Carbonate		A+
Gelatin		A+	Magnesium Chloride	Aqueous solution or solid	A+
Gin		A+	Magnesium Citrate		A+
Glucose	Aqueous solution or solid	A+	Magnesium Hydroxide		A+
Glue		A+	Magnesium Nitrate	Aqueous solution or solid	A+
Glutamic Acid		A+	Magnesium Sulfate	Aqueous solution or solid	A-
Glycerin	Aqueous solution or liquid	A+	Maleic Acid	Aqueous solution or solid	A+
Glycine	Aqueous solution or solid	A	Maleic Anhydride		A-
Glycolic Acid		A	Malic Acid	Aqueous solution or solid	A+
Heptane		A+	Manganese Sulfate	Aqueous solution or solid	A+
Hexachloro-1,3-butadiene		A	Mercuric Chloride		A+
Hexamethylenediamine		A-	Mercuric Cyanide		A+
Hexamethylphosphotriamide		A-	Mercuric Nitrate	Aqueous solution or solid	A+
Hexane		A+	Mercury		A+
Hexyl Alcohol		A+	Methacrylic Acid		A
Hydrazine	Aqueous solution or liquid	A+	Methane		A+
Hydrazine Dihydrochloride	Aqueous solution or solid	A	Methanesulfonic Acid	Aqueous solution or liquid	A+
Hydrazine Hydrate	Aqueous solution or liquid	A+	Methyl Acetate		A
Hydriodic Acid	Aqueous solution	A+	Methyl Acrylate		A
Hydrobromic Acid	Up to 50% in water	A+	Methyl Alcohol	Aqueous solution or liquid	A+
Hydrochloric Acid	Up to "concentrated"	A+	Methyl Bromide		A+
Hydrocyanic Acid	Aqueous solution	A+	Methyl Chloride		A+
Hydrofluoric Acid	Up to 40% in water	A+	Methyl Chloroacetate		A
Hydrofluoric Acid	41-100% in water	A+	Methyl Chloromethyl Ether		A-
Hydrogen		A+	Methyl Ethyl Ketone		A-
Hydrogen Chloride		A+	Methyl Isobutyl Ketone		A-
Hydrogen Cyanide		A+	Methyl Methacrylate		A
Hydrogen Fluoride		A+	Methyl Salicylate		A+
Hydrogen Peroxide	Up to 30% in water	A+	Methylamine		A-
Hydrogen Peroxide	90% in water	A	Methylchloroform		A+
Hydrogen Sulfide		A+	Methylene Bromide		A+
Hydrogen Sulfide	Aqueous solution	A+	Methylene Chloride		A+
Hydroquinone		A+	Methylene Iodine		A+
Hydrochlorous Acid	Aqueous solution	A	Methylsulfuric Acid	Aqueous solution or liquid	A+
Iodine	10% in Non-Aqueous solvent	A+	Methyltrichlorosilane		A+
Iodine, gas		A+	Milk		A+
Iodoform		A+	Mineral Oil		A+
Isoamyl Ether		A	Molasses		A+
Isobutyl Alcohol		A+	Morpholine	Aqueous solution or liquid	A
Isooctane		A+	Motor Oil		A+
Isophorone		A	Naphtha		A+
Isopropyl Alcohol		A+	Naphthalene		A+
Isopropyl Chloride		A	Nickel Acetate	Aqueous solution or solid	A+
Isopropyl Ether		A-	Nickel Chloride	Aqueous solution or solid	A+
Isopropylbenzene		A	Nickel Nitrate	Aqueous solution or solid	A+
Jet Fuel (JP4, JP5)		A+	Nickel Sulfate	Aqueous solution or solid	A+
Kerosene		A+	Nicotine		A
Lactic Acid	Aqueous solution or pure	A+	Nicotinic Acid		A+

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Rating for Low Pressure Drainage System

Chemical Substance	Concentration*	Rating
Nitric Acid	Up to 10% in water	A+
Nitric Acid	11-70% in water	A+
Nitric Acid, fuming		A-
Nitrobenzene		A-
Nitroethane		A-
Nitrogen		A+
Nitrogen Dioxide		A+
Nitroglycerin		A+
Nitromethane		A+
Nitrotoluene		A+
Nitrous Oxide		A-
Octane		A+
Octene		A+
Oleic Acid		A+
Oleum		A-
Olive oil		A+
Oxalic Acid		A+
Oxygen		A+
Ozone		A+
Palm Oil		A+
Palmitic Acid		A+
Paraffin		A+
Paraffin Oil		A+
Peanut Oil		A+
Perchloric Acid	10% in water	A+
Perchloric Acid	70% in water	A+
Perchloroethylene		A+
Perchloromethyl Mercaptan		A+
Petrolatum		A+
Petroleum		A+
Phenol	5% in water	A+
Phenol		A+
1-Phenol-2-sulfonic-Acid		A+
Phenyl Ether		A
Phenylhydrazine		A
Phenylhydrazine Hydrochloride	Aqueous solution or solid	A
o-Phenylphenol		A+
Phosgene		A+
Phosphoric Acid	Less than 85% in water	A+
Phosphoric Acid	85% in water	A+
Phosphorus, red		A
Phosphorus, Oxychloride		A-
Phosphorus, Pentachloride		A+
Phosphorus, Pentoxide		A+
Phosphorus, Trichloride		A+
Phthalic Acid		A+
Picric Acid		A
Plating Solutions: Brass		A+
Cadmium		A+
Chrome		A+
Copper		A+
Iron		A+
Lead		A+
Nickel		A+
Rodium		A+
Silver		A+
Speculum		A+
Tin		A+
Zinc		A+
Polyethylene Glycol		A+
Polyvinyl Acetate		A+
Polyvinyl Alcohol		A+
Potassium Acetate	Aqueous solution or solid	A+
Potassium Alum	Aqueous solution or liquid	A+

Chemical Substance	Concentration*	Rating
Potassium Aluminum Chloride		A+
Potassium Bicarbonate	Aqueous solution or solid	A+
Potassium Bisulfate	Aqueous solution or solid	A+
Potassium Borate	Aqueous solution or solid	A+
Potassium Bromate	Aqueous solution or solid	A+
Potassium Bromide	Aqueous solution or solid	A+
Potassium Carbonate	Aqueous solution or solid	A+
Potassium Chlorate		A+
Potassium Chloride	Aqueous solution or solid	A+
Potassium Chromate	Aqueous solution or solid	A+
Potassium Cyanide	Aqueous solution or solid	A+
Potassium Dichromate		A+
Potassium Ferricyanide	Aqueous solution or solid	A+
Potassium Ferrocyanide	Aqueous solution or solid	A+
Potassium Fluoride	Aqueous solution or solid	A+
Potassium Hydroxide	5 to 10% in water	A-
Potassium Hydroxide	Greater than 50% in water	A-
Potassium Hypochlorite	Aqueous solution	A+
Potassium Iodide	Aqueous solution or solid	A+
Potassium Nitrate	Aqueous solution or solid	A+
Potassium Perborate		A+
Potassium Perchlorate		A+
Potassium Permanganate	Aqueous solution or solid	A+
Potassium Persulfate		A+
Potassium Sulfate	Aqueous solution or solid	A+
Potassium Sulfide		A+
Propane		A+
Propyl Acetate		A
Propyl Alcohol	Aqueous solution or liquid	A+
Propylamine		A-
Propylene Dibromide		A+
Propylene Dichloride		A+
Propylene Glycol	Aqueous solution or liquid	A+
Propylene Oxide		A-
Pyridine		A-
Pyrogallol	Aqueous solution or solid	A
Salicylaldehyde		A
Selenic Acid	Aqueous solution or pure	A+
Silicon Tetrachloride		A+
Silcone Oil		A+
Silver Cyanide		A+
Silver Nitrate	Aqueous solution or solid	A+
Silver Sulfate		A+
Sodium Acetate	Aqueous solution or solid	A+
Sodium Benzoate	Aqueous solution or solid	A+
Sodium Bicarbonate	Aqueous solution or solid	A+
Sodium Bisulfate	Aqueous solution or solid	A+
Sodium Bisulfite	Aqueous solution or solid	A+
Sodium Bromate	Aqueous solution or solid	A+
Sodium Bromide	Aqueous solution or solid	A+
Sodium Carbonate	Aqueous solution or solid	A+
Sodium Chlorate	Aqueous solution or solid	A+
Sodium Chlorite	Aqueous solution or solid	A+
Sodium Chromate	Aqueous solution or solid	A+
Sodium Cyanide	Aqueous solution or solid	A+
Sodium Dichromate	Aqueous solution or solid	A+
Sodium Dithionite	Aqueous solution or solid	A
Sodium Ferricyanide	Aqueous solution or solid	A+
Sodium Ferrocyanide	Aqueous solution or solid	A+
Sodium Fluoride	Aqueous solution or solid	A+
Sodium Fluosilicate		A+
Sodium Hydrogen Phosphate	Aqueous solution or solid	A+
Sodium Hydroxide	Up to 10% in water *	A
Sodium Hydroxide	Greater than 50% in water	A

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Sodium Hypochlorite	Up to 5% in water	A+	Thioglycol		A
Sodium Hypochlorite	6-15% in water	A+	Thioglycolic Acid		A+
Sodium Iodide	Aqueous solution or solid	A+	Thionyl Chloride		A-
Sodium Nitrate	Aqueous solution or solid	A+	Thiophosphoryl Chloride		A-
Sodium Nitrite	Aqueous solution or solid	A+	Thread Cutting Oils		A+
Sodium Palmitate		A+	Titanium Tetrachloride		A+
Sodium Perchlorate	Aqueous solution or solid	A+	Toluene		A+
Sodium Peroxide		A+	Toluenesulfonyl Chloride		A
Sodium Phosphate	Aqueous solution or solid	A+	Tomato Juice		A+
Sodium Thiocyanate	Aqueous solution or solid	A+	Tributyl Phosphate		A
Sodium Thiosulfate	Aqueous solution or solid	A+	Trichloroacetic Acid	Up to 10% in water	A+
Sour Crude Oil		A+	Trichloroacetic Acid	50% in water to pure	A
Soybean Oil		A+	1,2,4-Trichlorobenzene		A+
Stannic Chloride	Aqueous solution or solid	A+	1,1,2-Trichloroethane		A+
Stannous Chloride	Aqueous solution or solid	A+	Trichloroethylene		A+
Starch		A+	2,4,5-Trichlorophenol		A+
Stearic Acid		A+	Tricresyl Phosphate		A-
Stilbene		A+	Triethanolamine	Aqueous solution or liquid	A-
Styrene		A+	Triethylamine		A-
Succinic Acid		A+	Trifluoroacetic Acid	50% in water	A+
Sugar Syrup		A+	Trifluoroacetic Acid		A
Sulfur		A+	Trimethylamine	Aqueous solution or gas	A
Sulfur Chloride		A	Turpentine		A+
Sulfur Dichloride		A	Urea	Aqueous solution or solid	A+
Sulfur Dioxide		A+	Varnish		A+
Sulfur Trioxide		A-	Varsol		A+
Sulfuric Acid	Up to 60% in water	A+	Vegetable Oil		A+
Sulfuric Acid	60-93% in water	A+	Vinegar		A+
Sulfuric Acid	98% in water	A	Vinyl Acetate		A+
Sulfuric Acid fuming		A-	Vinyl Chloride		A+
Sulfuryl Chloride		A-	Vinylidene Chloride		A+
Tall Oil		A+	Water		A+
Tallow		A+	Water, salt		A+
Tannic Acid		A+	Water, sewage		A+
Tar		A+	Whiskey		A+
Tartaric Acid		A+	Wine		A+
Tetrabromoethane		A+	Xylene		A+
Tetrachloroethane		A+	Zinc Acetate	Aqueous solution	A+
Tetrachlorophenol		A+	Zinc Bromide	Aqueous solution or solid	A+
Tetraethyllead		A+	Zinc Chloride	Aqueous solution or solid	A+
Tetrahydrofuran	Aqueous solution or liquid	A-	Zinc Nitrate	Aqueous solution or solid	A+
Tetramethylammonium Hydroxide	Up to 10% in water	A+	Zinc Sulfate	Aqueous solution or solid	A+
Tetramethylurea		A-			

Guidelines

for using Kynar® PVDF products in chemical waste drainage.

Kynar® PVDF is suitable for short term contact with many chemicals up to 150°C (300°F). If your application involves mixtures of chemicals and temperatures above 40°C, Kynar® PVDF resin will most likely be suitable, but Arkema recommends that you consult our technical staff prior to installing your system.

* pure substance unless otherwise indicated.

A+: Suitable for elevated temperatures varying with chemical in question.

A: Suitable for continuous ambient conditions and for short term elevated temperature varying with chemical in question.

A-: Suitable for short term use at full strength under ambient conditions, and suitable for continuous use at ambient conditions in diluted form.

B: Suitable for short term use if concentration will be less than 100%, please contact Arkema technical staff for assessment of a safe concentration at maximum exposure temperature.

The ratings given on the previous pages are a guide and do not constitute a warranty of any kind, expressed or implied, with respect to the performance of Kynar® polyvinylidene fluoride resin in any specific application.



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