Uponor PP-RCT chemical resistance table

Polypropylene random copolymer with modified crystallinity and temperature resistance (PP-RCT) is resistant to many chemical substances and therefore suitable for a wide variety of applications. The table below lists examples of PP-RCT chemical resistance behavior toward a small variety of chemicals. It is very important to select appropriate transition fittings (fittings with metal inserts). When designing the system with special requirements, please consult Uponor Technical Services at 888.594.7726 regarding specific inquiries related to chemical compatibility.

Uponor testing on PP-RCT				
Chemical or product	**Concentration**	**Temperature**		
		68°F (20°C)	**140°F (60°C)**	**212°F (100°C)**
Adhesive construction (water-based acrylic)	–	S	S	S
Asphalt/bitumen	–	L	L	L
Benzotriazole (biocide)	100 ppm	S	–	–
Bleach/Clorox® (sodium hypochlorite)	200 ppm	S	–	–
Bromine solution	10 ppm	L	–	–
Chlorine dioxide	10 ppm	L	–	–
Citric acid	50%	S	S	S
Clear finish (urethane based)	–	S	S	S
Diethylhydroxylamine	100 ppm	S	S	S
Diesel	–	NS	NS	NS
Disinfectant spray (didecyldimethylammonium chloride)	50%	S	S	S
Ethylene glycol:water	50:50	S	S	S
Fernox F1 and Fremont C312 (central heating protector)	50%	S	S	L
Fernox F3, Fremont 9917 (central heating cleaner)	50%	S	S	L
Firecaulk (inorganic polymerized silicate)	–	S	S	S
Gluteraldehyde (biocide)	3%	NS	NS	NS
GP epoxy glue	–	S	S	S

S = Satisfactory | L = Limited | NS = Non satisfactory | – = No data available

Note: Chemical resistance varies with applied stress, temperature and chemical concentration. The data in these charts represents general guidelines. Specific applications with applied mechanical stress may result in stress-crack growth in PP-RCT. Additionally, the above data represents the impact of individual chemicals on PP-RCT. A combination of chemicals could result in a synergistic effect. This report does not address the potential impact of chemical combinations on PP-RCT.

Uponor testing on PP-RCT				
Chemical or product	**Concentration**	**Temperature**		
		68°F (20°C)	**140°F (60°C)**	**212°F (100°C)**
Hydrochloric acid	37%	L	NS	NS
Hydrogen peroxide	30%	S	–	–
Hydraulic oil (petroleum distillate based)	–	NS	NS	NS
Isocyanate foam (polyurethane foam)	–	S	S	S
Izothiazole (biocide)	100 ppm	S	–	–
Leak detector (AGA LT4)	–	S	S	S
Liquid argon	–	S	S	S
Nitrous oxide	100%	S	S	S
Ozone in water	–	L	–	–
Paint (oil) alkyd (mineral spirit as solvent)	–	S	S	S
Paint (urethane modified-alkyd)	–	S	S	S
Phosphoric acid	50%	S	S	S
Propylene glycol:water	50:50	S	S	S
Rust removal using HCl or HPO4	–	S	–	–
SMP-polymer (silyl modified polymer/silane modified polymer)	–	S	S	S
Sodium cumenesulfonate basic solution (e.g., Fremont C103)	30% with 10% NaOH	S	S	S
Sodium hydroxide	50%	S	S	S
Sodium molybdate	500 ppm	S	S	S
Sodium nitrite	2000 ppm	S	S	S
Sulfuric acid	50%	S	S	L
Triethanolamine	100 ppm	S	L	L

S = Satisfactory | L = Limited | NS = Non satisfactory | – = No data available

Note: Chemical resistance varies with applied stress, temperature and chemical concentration. The data in these charts represents general guidelines. Specific applications with applied mechanical stress may result in stress-crack growth in PP-RCT. Additionally, the above data represents the impact of individual chemicals on PP-RCT. A combination of chemicals could result in a synergistic effect. This report does not address the potential impact of chemical combinations on PP-RCT.

Polypropylene chemical resistance table (resin supplier data)

Polypropylene (PP) is resistant to many chemical substances and therefore suitable for a wide variety of applications. The following table lists the PP chemical resistance behavior toward a small variety of chemicals. The PP material resistance includes a wide variety of chemicals. When designing the system with special requirements, please consult with Uponor Technical Services at 888.594.7726 regarding specific inquiries related to chemical compatibility.

PP chemical resistance table				
Chemical or product	**Concentration**	**Temperature**		
		68°F (20°C)	**140°F (60°C)**	**212°F (100°C)**
Acetic acid	up to 40%	S	S	–
	50%	S	S	L
Acetic acid, glacial	>96%	S	L	NS
Acetic anhydride	100%	S	–	–
Acetone	100%	S	S	–
Aceptophenone	100%	S	L	–
Acrylonitrile	100%	S	–	–
Allyl alcohol	100%	S	S	–
Air	–	S	S	S
Almond oil	–	S	–	–
Alum	Solution	S	S	–
Ammonia, aqueous	Saturated solution	S	S	–
Ammonia, dry gas	100%	S	–	–
Ammonia, liquid	100%	S	–	–
Ammonium acetate	Saturated solution	S	S	–
Ammonium chloride	Saturated solution	S	S	–

S = Satisfactory | L = Limited | NS = Non satisfactory | – = No data available

Note: Chemical resistance varies with applied stress, temperature and chemical concentration. The provided data represents general guidelines. Specific applications with applied mechanical stress may result in stress-crack growth in PP. The provided data represents the impact of individual chemicals on PP and is specific to PP, but may be used as a general guideline for PP-RCT. A combination of chemicals could result in a synergistic effect. This report does not address the potential impact of chemical combinations on PP and PP-RCT. The provided data is for homogeneous PP/PP-RCT pipes. For composite-layered pipes (e.g., glass fiber-filled core), the impact of some chemicals may be changed compared to an unfilled material. Please consult with Uponor Technical Services at 888.594.7726 regarding specific inquiries related to chemical compatibility.

PP chemical resistance table				
Chemical or product	**Concentration**	**Temperature**		
		68°F (20°C)	**140°F (60°C)**	**212°F (100°C)**
Ammonium fluoride	Up to 20%	S	S	-
Ammonium hydrogen carbonate	Saturated solution	S	S	–
Ammonium metaphosphate	Saturated solution	S	S	S
Ammonium nitrate	Saturated solution	S	S	S
Ammonium persulphate	Saturated solution	S	S	–
Ammonium phosphate	Saturated solution	S	–	–
Ammonium sulphate	Saturated solution	S	S	S
Ammonium sulphide	Saturated solution	S	S	–
Amyl acetate	100%	L	–	–
Amyl alcohol	100%	S	S	S
Aniline	100%	S	S	–
Apple juice	–	S	–	–
Aqua regia	HCl/HN03=3/1	NS	NS	–
Barium bromide	Saturated solution	S	S	NS
Barium carbonate	Saturated solution	S	S	S
Barium chloride	Saturated solution	S	S	S
Barium hydroxide	Saturated solution	S	S	S
Barium sulphide	Saturated solution	S	S	S
Beer	–	–	S	S
Benzene	100%	L	NS	NS
Benzoic acid	Saturated solution	S	S	NS

S = Satisfactory | L = Limited | NS = Non satisfactory | – = No data available

Note: Chemical resistance varies with applied stress, temperature and chemical concentration. The provided data represents general guidelines. Specific applications with applied mechanical stress may result in stress-crack growth in PP. The provided data represents the impact of individual chemicals on PP and is specific to PP, but may be used as a general guideline for PP-RCT. A combination of chemicals could result in a synergistic effect. This report does not address the potential impact of chemical combinations on PP and PP-RCT. The provided data is for homogeneous PP/PP-RCT pipes. For composite-layered pipes (e.g., glass fiber-filled core), the impact of some chemicals may be changed compared to an unfilled material. Please consult with Uponor Technical Services at 888.594.7726 regarding specific inquiries related to chemical compatibility.

PP chemical resistance table				
Chemical or product	**Concentration**	**Temperature**		
		68°F (20°C)	**140°F (60°C)**	**212°F (100°C)**
Benzyl alcohol	100 0/0	S	L	–
Borax	Solution	S	S	–
Boric acid	Saturated solution	S	–	–
Boron trifluoride	Saturated solution	S	–	–
Bromine, gas	–	NS	NS	NS
Bromine, liquid	100%	NS	NS	NS
Butane, gas	100%	S	–	–
Butanol	100%	S	L	L
Butyl acetate	100%	L	NS	NS
Butyl glycol	100%	S	–	–
Butyl phenols	Saturated solution	S	–	–
Butyl phthalate	100%	S	L	L
Calcium carbonate	Saturated solution	S	S	S
Calcium chlorate	Saturated solution	S	S	S
Calcium chloride	Saturated solution	S	S	–
Calcium hydroxide	Saturated solution	S	S	S
Calcium hypochlorite	Solution	S	–	–
Calcium nitrate	Saturated solution	S	S	–
Camphor oil	–	NS	NS	NS
Carbon dioxide, dry gas	–	S	S	–
Carbon dioxide, wet gas	–	S	S	–

S = Satisfactory | L = Limited | NS = Non satisfactory | – = No data available

Note: Chemical resistance varies with applied stress, temperature and chemical concentration. The provided data represents general guidelines. Specific applications with applied mechanical stress may result in stress-crack growth in PP. The provided data represents the impact of individual chemicals on PP and is specific to PP, but may be used as a general guideline for PP-RCT. A combination of chemicals could result in a synergistic effect. This report does not address the potential impact of chemical combinations on PP and PP-RCT. The provided data is for homogeneous PP/PP-RCT pipes. For composite-layered pipes (e.g., glass fiber-filled core), the impact of some chemicals may be changed compared to an unfilled material. Please consult with Uponor Technical Services at 888.594.7726 regarding specific inquiries related to chemical compatibility.

PP chemical resistance table				
Chemical or product	**Concentration**	**Temperature**		
		68°F (20°C)	**140°F (60°C)**	**212°F (100°C)**
Carbon disulphide	100%	S	NS	NS
Carbon monoxide, gas	–	S	S	–
Carbon tetrachloride	100%	NS	NS	NS
Castor oil	100%	S	S	–
Caustic soda	Up to 50%	S	L	L
Chlorine, aqueous	Saturated solution	S	L	–
Chlorine, dry gas	100%	NS	NS	NS
Chlorine, liquid	100%	NS	NS	NS
Chloroacetic acid	Solution	S	–	–
Chloroethanol	100%	S	–	–
Chloroform	100%	L	NS	NS
Chlorosulphonic acid	100%	NS	NS	NS
Chrome alum	Solution	S	S	–
Chromic acid	up to 40%	S	L	S
Citric acid	Saturated solution	S	S	S
Coconut oil	–	S	–	–
Copper (II) chloride	Saturated solution	S	S	–
Copper (II) nitrate	Saturated solution	S	S	S
Copper (II)	Saturated solution	S	S	–
Corn oil	–	S	L	–
Cottonseed oil	–	S	S	–

S = Satisfactory | L = Limited | NS = Non satisfactory | – = No data available

Note: Chemical resistance varies with applied stress, temperature and chemical concentration. The provided data represents general guidelines. Specific applications with applied mechanical stress may result in stress-crack growth in PP. The provided data represents the impact of individual chemicals on PP and is specific to PP, but may be used as a general guideline for PP-RCT. A combination of chemicals could result in a synergistic effect. This report does not address the potential impact of chemical combinations on PP and PP-RCT. The provided data is for homogeneous PP/PP-RCT pipes. For composite-layered pipes (e.g., glass fiber-filled core), the impact of some chemicals may be changed compared to an unfilled material. Please consult with Uponor Technical Services at 888.594.7726 regarding specific inquiries related to chemical compatibility.

PP chemical resistance table				
Chemical or product	**Concentration**	**Temperature**		
		68°F (20°C)	**140°F (60°C)**	**212°F (100°C)**
Cresol	Greater than 90%	S	–	–
Cyclohexane	100%	S	–	–
Cyclohexanol	100%	S	L	–
Cyclohexanone	100%	L	NS	NS
Decalin (decahydronaphthalene)	100%	NS	NS	NS
Dextrin	Solution	S	S	–
Dextrose	Solution	S	S	S
Dibutyl phthalate	100%	S	L	NS
Dichloroacetic acid	100%	L	–	–
Dichloroethylene (A and B)	100%	L	–	–
Diethanolamine	100%	S	–	–
Diethyl ether	100%	S	L	–
Diethylene glycol	100%	S	S	–
Diglycolic acid	Saturated solution	S	–	–
Diisooctyl	100%	S	L	–
Dimethyl amine, gas	–	S	–	–
Dimethyl formamide	100%	S	S	–
Dioctyl phthalate	100%	L	L	–
Dioxane	100%	L	L	–
Distilled water	100%	S	S	S
Ethanolamine	100%	S	–	–

S = Satisfactory | L = Limited | NS = Non satisfactory | – = No data available

Note: Chemical resistance varies with applied stress, temperature and chemical concentration. The provided data represents general guidelines. Specific applications with applied mechanical stress may result in stress-crack growth in PP. The provided data represents the impact of individual chemicals on PP and is specific to PP, but may be used as a general guideline for PP-RCT. A combination of chemicals could result in a synergistic effect. This report does not address the potential impact of chemical combinations on PP and PP-RCT. The provided data is for homogeneous PP/PP-RCT pipes. For composite-layered pipes (e.g., glass fiber-filled core), the impact of some chemicals may be changed compared to an unfilled material. Please consult with Uponor Technical Services at 888.594.7726 regarding specific inquiries related to chemical compatibility.

PP chemical resistance table				
Chemical or product	**Concentration**	**Temperature**		
		68°F (20°C)	**140°F (60°C)**	**212°F (100°C)**
Ethyl acetate	100%	L	NS	NS
Ethyl alcohol	Up to 95%	S	S	S
Ethyl chloride, gas	–	NS	NS	NS
Ethylene chloride (mono and di)	–	L	L	–
Ethyl ether	100%	S	L	–
Ethylene glycol	100%	S	S	S
Ferric chloride	Saturated solution	S	S	S
Formaldehydes	40%	S	–	–
Formic acids	10%	S	S	L
	85%	S	NS	NS
Formic acid, anhydrous	100%	S	L	L
Fructose	Solution	S	S	S
Fruit juice	–	S	S	S
Gasoline, petrol (aliphatic hydrocarbons)	–	NS	NS	NS
Gelatin	–	S	S	–
Glucose	20%	S	S	S
Glycerine	100%	S	S	S
Glycolic acid	30%	S	–	–
Heptane	100%	L	NS	NS
Hexane	100%	S	L	–
Hydrobromic acid	Up to 48%	S	L	NS

S = Satisfactory | L = Limited | NS = Non satisfactory | – = No data available

Note: Chemical resistance varies with applied stress, temperature and chemical concentration. The provided data represents general guidelines. Specific applications with applied mechanical stress may result in stress-crack growth in PP. The provided data represents the impact of individual chemicals on PP and is specific to PP, but may be used as a general guideline for PP-RCT. A combination of chemicals could result in a synergistic effect. This report does not address the potential impact of chemical combinations on PP and PP-RCT. The provided data is for homogeneous PP/PP-RCT pipes. For composite-layered pipes (e.g., glass fiber-filled core), the impact of some chemicals may be changed compared to an unfilled material. Please consult with Uponor Technical Services at 888.594.7726 regarding specific inquiries related to chemical compatibility.

PP chemical resistance table				
Chemical or product	**Concentration**	**Temperature**		
		68°F (20°C)	**140°F (60°C)**	**212°F (100°C)**
Hydrochloric acid	Up to 20%	S	S	S
	30%	S	L	L
	From 35 to 36%	S	–	–
Hydrofluoric acid	Diluted solution	S	–	–
	40%	S	–	–
Hydrogen	100%	S	–	–
Hydrogen chloride, dry gas	100%	S	S	–
Hydrogen peroxide	Up to 10%	S	–	–
	Up to 30%	S	L	–
Hydrogen sulphide, dry gas	100%	S	S	–
Iodine, in alcohol	–	S	–	–
Isoctane	100%	L	NS	NS
Isopropyl alcohol	100%	S	S	S
Isopropyl ether	100%	L	–	–
Lactic acid	Up to 90%	S	S	–
Lanoline	–	S	L	–
Linseed oil	–	S	S	S
Magnesium carbonate	Saturated solution	S	S	S
Magnesium chloride	Saturated solution	S	S	–
Magnesium hydroxide	Saturated solution	S	S	–
Magnesium sulphate	Saturated solution	S	S	–

S = Satisfactory | L = Limited | NS = Non satisfactory | – = No data available

Note: Chemical resistance varies with applied stress, temperature and chemical concentration. The provided data represents general guidelines. Specific applications with applied mechanical stress may result in stress-crack growth in PP. The provided data represents the impact of individual chemicals on PP and is specific to PP, but may be used as a general guideline for PP-RCT. A combination of chemicals could result in a synergistic effect. This report does not address the potential impact of chemical combinations on PP and PP-RCT. The provided data is for homogeneous PP/PP-RCT pipes. For composite-layered pipes (e.g., glass fiber-filled core), the impact of some chemicals may be changed compared to an unfilled material. Please consult with Uponor Technical Services at 888.594.7726 regarding specific inquiries related to chemical compatibility.

PP chemical resistance table				
Chemical or product	**Concentration**	**Temperature**		
		68°F (20°C)	**140°F (60°C)**	**212°F (100°C)**
Maleic acid	Saturated solution	S	S	–
Mercury (II) chloride	Saturated solution	S	S	–
Mercury (II) cyanide	Saturated solution	S	S	–
Mercury (I) nitrate	Solution	S	S	–
Mercury	100%	S	S	–
Methyl acetate	100%	S	S	–
Methyl alcohol	5%	S	L	L
Methyl amine	Up to 32%	S	–	–
Methyl bromide	100%	NS	NS	NS
Methyl ethyl ketone	100%	S	–	–
Methylene chloride	100%	L	NS	NS
Milk	–	S	S	S
Monochloroacetic acid	>85%	S	S	–
Naphtha	–	S	NS	NS
Nickel chloride	Saturated solution	S	S	–
Nickel nitrate	Saturated solution	S	S	–
Nickel sulphate	Saturated solution	S	S	–
Nitric acid	Up to 30%	S	NS	NS
	From 40 to 50%	L	NS	NS
Nitric acid, fuming (with nitrogen dioxide)	–	NS	NS	NS
Nitrobenzene	100%	S	L	–

S = Satisfactory | L = Limited | NS = Non satisfactory | – = No data available

Note: Chemical resistance varies with applied stress, temperature and chemical concentration. The provided data represents general guidelines. Specific applications with applied mechanical stress may result in stress-crack growth in PP. The provided data represents the impact of individual chemicals on PP and is specific to PP, but may be used as a general guideline for PP-RCT. A combination of chemicals could result in a synergistic effect. This report does not address the potential impact of chemical combinations on PP and PP-RCT. The provided data is for homogeneous PP/PP-RCT pipes. For composite-layered pipes (e.g., glass fiber-filled core), the impact of some chemicals may be changed compared to an unfilled material. Please consult with Uponor Technical Services at 888.594.7726 regarding specific inquiries related to chemical compatibility.

PP chemical resistance table				
Chemical or product	**Concentration**	**Temperature**		
		68°F (20°C)	**140°F (60°C)**	**212°F (100°C)**
Oleic acid	100%	S	L	–
Oleum (sulphuric acid with 60% of SO3)	–	S	L	–
Olive oil	–	S	S	L
Oxalic acid	Saturated solution	S	L	NS
Oxygen, gas	–	S	–	–
Paraffin oil (FL65)	–	s	L	NS
Peanut oil	–	S	S	–
Peppermint oil	–	S	–	–
Perchloric acid	(2 N) 20%	S	–	–
Petroleum ether (ligroine)	–	L	L	–
Phenol	5%	S	S	–
	90%	S	–	–
Phosphine, gas	–	S	S	–
Phosphoric acid	Up to 85%	S	S	S
Phosphorus oxychloride	100%	S	–	–
Picric acid	Saturated solution	S	–	–
Potassium bicarbonate	Saturated solution	S	S	S
Potassium borate	Saturated solution	S	S	–
Potassium bromate	Up to 10%	S	S	–
Potassium bromide	Saturated solution	S	S	–
Potassium carbonate	Saturated solution	S	S	–

S = Satisfactory | L = Limited | NS = Non satisfactory | – = No data available

Note: Chemical resistance varies with applied stress, temperature and chemical concentration. The provided data represents general guidelines. Specific applications with applied mechanical stress may result in stress-crack growth in PP. The provided data represents the impact of individual chemicals on PP and is specific to PP, but may be used as a general guideline for PP-RCT. A combination of chemicals could result in a synergistic effect. This report does not address the potential impact of chemical combinations on PP and PP-RCT. The provided data is for homogeneous PP/PP-RCT pipes. For composite-layered pipes (e.g., glass fiber-filled core), the impact of some chemicals may be changed compared to an unfilled material. Please consult with Uponor Technical Services at 888.594.7726 regarding specific inquiries related to chemical compatibility.

PP chemical resistance table				
Chemical or product	**Concentration**	**Temperature**		
		68°F (20°C)	**140°F (60°C)**	**212°F (100°C)**
Potassium chlorate	Saturated solution	S	S	–
Potassium chlorite	Saturated solution	S	S	–
Potassium chromate	Saturated solution	S	S	–
Potassium cyanide	Solution	S	–	–
Potassium dichromate	Saturated solution	S	S	S
Potassium ferricyanide	Saturated solution	S	S	–
Potassium fluoride	Saturated solution	S	S	–
Potassium hydroxide	Up to 50%	S	S	S
Potassium iodide	Saturated solution	S	–	–
Potassium nitrate	Saturated solution	S	S	–
Potassium perchlorate	10%	S	S	–
Potassium permanganate	(2 N) 30%	S	–	–
Potassium persulphate	Saturated solution	S	S	–
Potassium sulphate	Saturated solution	S	S	–
Propane, gas	100%	S	–	–
Propionic acid	>50%	S	–	–
Pyridine	100%	S	–	–
Seawater	–	S	S	S
Silicon oil	–	S	S	S
Silver nitrate	Saturated solution	S	S	–
Sodium acetate	Saturated solution	S	S	S

S = Satisfactory | L = Limited | NS = Non satisfactory | – = No data available

Note: Chemical resistance varies with applied stress, temperature and chemical concentration. The provided data represents general guidelines. Specific applications with applied mechanical stress may result in stress-crack growth in PP. The provided data represents the impact of individual chemicals on PP and is specific to PP, but may be used as a general guideline for PP-RCT. A combination of chemicals could result in a synergistic effect. This report does not address the potential impact of chemical combinations on PP and PP-RCT. The provided data is for homogeneous PP/PP-RCT pipes. For composite-layered pipes (e.g., glass fiber-filled core), the impact of some chemicals may be changed compared to an unfilled material. Please consult with Uponor Technical Services at 888.594.7726 regarding specific inquiries related to chemical compatibility.

PP chemical resistance table				
Chemical or product	**Concentration**	**Temperature**		
		68°F (20°C)	**140°F (60°C)**	**212°F (100°C)**
Sodium benzoate	35%	S	L	–
Sodium bicarbonate	Saturated solution	S	S	S
Sodium carbonate	Up to 50%	S	S	–
Sodium chlorate	Saturated solution	S	S	–
Sodium chloride	Saturated solution	S	S	–
Sodium chlorite	2%	S	L	NS
	20%	S	L	NS
Sodium dichromate	Saturated solution	S	S	S
Sodium hydrogen carbonate	Saturated solution	S	S	S
Sodium hydrogen sulphate	Saturated solution	S	S	S
Sodium hydrogen sulphite	Saturated solution	S	–	–
Sodium hydroxide	1%	S	S	S
	From 10 to 60%	S	S	S
Sodium hypochlorite	5%	S	S	–
	10% – 15%	S	–	–
	20%	S	L	–
Sodium metaphosphate	Solution	S	–	–
Sodium nitrate	Saturated solution	S	S	–
Sodium perborate	Saturated solution	S	S	–
Sodium phosphate (neutral)	–	S	S	S
Sodium silicate	Solution	S	S	–

S = Satisfactory | L = Limited | NS = Non satisfactory | – = No data available

Note: Chemical resistance varies with applied stress, temperature and chemical concentration. The provided data represents general guidelines. Specific applications with applied mechanical stress may result in stress-crack growth in PP. The provided data represents the impact of individual chemicals on PP and is specific to PP, but may be used as a general guideline for PP-RCT. A combination of chemicals could result in a synergistic effect. This report does not address the potential impact of chemical combinations on PP and PP-RCT. The provided data is for homogeneous PP/PP-RCT pipes. For composite-layered pipes (e.g., glass fiber-filled core), the impact of some chemicals may be changed compared to an unfilled material. Please consult with Uponor Technical Services at 888.594.7726 regarding specific inquiries related to chemical compatibility.

PP chemical resistance table				
Chemical or product	**Concentration**	**Temperature**		
		68°F (20°C)	**140°F (60°C)**	**212°F (100°C)**
Sodium sulphate	Saturated solution	S	S	–
Sodium sutphide	Saturated solution	S	S	–
Sodium sulphite	40%	S	S	S
Sodium thiosulphate (hypo)	Saturated solution	S	–	–
Soybean oil	–	S	L	–
Succinic acid	Saturated solution	S	S	–
Sulphuric dioxide, dry or wet	100%	S	S	–
Sulphuric acid	10%	S	S	S
	10% – 30%	S	S	–
	50%	S	L	L
	96%	S	L	NS
	98%	L	NS	NS
Sulphurous acid	Up to 30%	S	–	–
Tartaric acid	Saturated solution	S	S	–
Tetrahydrofuran	100%	L	NS	NS
Tetralin	100%	NS	NS	NS
Thiophene	100%	S	L	–
Tin (IV) chloride	Solution	S	S	–
Tin (II) chloride	Saturated solution	S	S	–
Toluene	100%	L	NS	NS
Trichloroacetic acid	50%	S	S	–

S = Satisfactory | L = Limited | NS = Non satisfactory | – = No data available

Note: Chemical resistance varies with applied stress, temperature and chemical concentration. The provided data represents general guidelines. Specific applications with applied mechanical stress may result in stress-crack growth in PP. The provided data represents the impact of individual chemicals on PP and is specific to PP, but may be used as a general guideline for PP-RCT. A combination of chemicals could result in a synergistic effect. This report does not address the potential impact of chemical combinations on PP and PP-RCT. The provided data is for homogeneous PP/PP-RCT pipes. For composite-layered pipes (e.g., glass fiber-filled core), the impact of some chemicals may be changed compared to an unfilled material. Please consult with Uponor Technical Services at 888.594.7726 regarding specific inquiries related to chemical compatibility.

PP chemical resistance table				
Chemical or product	**Concentration**	**Temperature**		
		68°F (20°C)	**140°F (60°C)**	**212°F (100°C)**
Trichloroethylene	100%	NS	NS	NS
Triethanolamine	Solution	S	–	–
Turpentine	–	NS	NS	NS
Urea	Saturated solution	S	S	–
Vinegar	–	S	S	–
Water brackish, mineral, potable	–	S	S	S
Whiskey	–	S	S	–
Wines	–	S	S	–
Xylene	100%	NS	NS	NS
Yeast	Solution	S	S	S
Zinc chloride	Saturated solution	S	S	–
Zinc sulphate	Saturated solution	S	S	–

S = Satisfactory | L = Limited | NS = Non satisfactory | – = No data available

Note: Chemical resistance varies with applied stress, temperature and chemical concentration. The provided data represents general guidelines. Specific applications with applied mechanical stress may result in stress-crack growth in PP. The provided data represents the impact of individual chemicals on PP and is specific to PP, but may be used as a general guideline for PP-RCT. A combination of chemicals could result in a synergistic effect. This report does not address the potential impact of chemical combinations on PP and PP-RCT. The provided data is for homogeneous PP/PP-RCT pipes. For composite-layered pipes (e.g., glass fiber-filled core), the impact of some chemicals may be changed compared to an unfilled material. Please consult with Uponor Technical Services at 888.594.7726 regarding specific inquiries related to chemical compatibility.