

Polyethylene & Polypropylene

Polyethylene Pipe and Fittings have excellent resistance to chemical attack. However, where aggressive chemicals are to be conveyed, the suitability for use should be checked against the chart below.

The chart is intended as a guide only. The actual performance cannot be guaranteed as indicated for every case as there are too many variables.

The chemicals listed are the common base constituents of many products used in the agricultural industry. If the fluid is not listed, reference should be made to the chemical supplier to ascertain its chemical make-up.

	PE		PP	
	20°C	40°C	20°C	40°C
Acetic acid (100%)	S	S	S	L
Acetic acid	S	U		
Acetic	S	U	S	S
Acetone	S	L	L	L
Acetophenone	S	S	L	L
Acrylonitrile	S	S	S	S
Alcohol	S	S		
Alum	S	S	S	S
Aluminium chloride	S	S	S	S
Aluminium Fluoride	S	S	S	S
Aluminium Hydroxide	S	S		
Aluminium nitrate	S	S		
Aluminium oxychloride	S	S		
Aluminium sulphate	S	S	S	S
Ammonia (dry gas)	S	S	S	S
Ammonia (liquid)	S	S	S	S
Ammonium chloride	S	S	S	S
Ammonium flouride (up to 60%)	S	S	S	S
Ammonium nitrate	S	S	S	S
Ammonium sulphate	S	S	S	S
Ammonium sulphide	S	S	S	S
Amyl alcohol	S	U	S	L
Amyl acetate	U	U	L	U
Amyl chloride	U	U	U	U
Aniline	S	U	S	S
Antimony chloride	S	S	S	S
Antraquinone sulphonic acid	S	S		
Arsenic acid	S	S		
Barium carbonate	S	S	S	S
Barium chloride	S	S	S	S
Barium hydroxide	S	S	S	S
Barium sulphate	S	S	S	S
Barium sulphide	S	S	S	S
Chlorine (Pool)				
Sodium Hypochlorite (12.5% Chlorine Sol)	S	S	S	S
Calcium Hypochlorite (10% Chlorine Sol)	S	S	S	S
Gasoline (petrol)	L	L	L	U
Glucose	S	S	S	S
Glycerol	S	S		
Glycolic acid	S	S	S	S
Heptane	L	U	L	U
Hydrobromic acid (50% aq soln)	S	S	S	S
Hydrobromic acid (100% aq soln)	S	S	S	S
Hydrobromic acid (100% aq soln)	S	S	S	S
Hydrochloric acid	S	S	S	
Hydrofluoric acid (1% aq soln)	S	S	S	
Hydrofluoric acid (40% aq soln)	S	L	S	S
Hydrogen	S	S	S	S
Hydrogen Peroxide	S	S	L	U
Hydrogen sulphide	S	S	S	S
Lactic acid (100%)	S	S		

	PE		PP	
	20°C	40°C	20°C	40°C
Lead acetate	S		S	S
Lead nitrate	S	S		
Magnesium carbonate	S	S	S	S
Magnesium chloride	S	S	S	S
Magnesium hydroxide	S	S	S	S
Magnesium nitrate	S	S	S	S
Mercuric acid	S	S		
Mercuric chloride	S	S	S	S
Mercuric cyanide	S	S	S	S
Mercurous nitrate	S	S	S	S
Mercury	S	S	S	S
Methanol (100%)	S	S	S	S
Milk	S	S	S	S
Molasses	S	S	S	S
Naphthalene	S	L	S	S
Nickel chloride	S	S	S	S
Nickel nitrate	S	S	S	S
Nickle sulphate	S	S	S	S
Nicotini acid	S	L		
Nitric acid (25% aq soln)	S	S	S	L
Nitric acid (50% aq soln)	U	U	L	U
Nitric acid	U	U	U	U
Nitric acid (100% aq soln)	U	U	U	U
Oil and Fats	S	L	S	S
Olic Acid	S	L	S	L
Orthophosphoric acid (50% aq soln)	S	S		
Orthophosphoric acid (95% aq soln)	S	L	S	L
Oxygen	S	S		
Phosphine	S	S		
Phosphorus	S	U		
Phosphorus pentoxide	S			
Phosphorus trichloride	S	L		
Phthalic anhydride	S	S		
Picric acid	S	S	S	S
Potassium bromate	S	S	S	S
Potassium	S	S	S	S
Potassium carbonate	S	S	S	S
Potassium chlorate	S	S	S	S
Potassium chloride	S	S	S	S
Potassium chromate	S	S	S	S
Potassium cyanide	S	S	S	S
Potassium dichromate	S	S	S	S
Potassium ferrocyanide	S	S	S	S
Potassium ferrocyanide	S	S	S	S
Potassium fluoride	S	S	S	S
Potassium hydro carb	S	S		
Potassium hydro sulph	S	S		
Potassium hydro sulph	S	S		
Potassium hydrox	S	S	S	S
Potassium hydrox (10% aq soln)	S	S	S	S
Potassium hydrox (conc)	S	S	S	S
Potassium hypochlorite	S	S		
Potassium nitrate	S	S	S	S
Potassium perchlorate	S	S	S	S
Potassium Permanganate	S	S	S	S
Potassium persulphate	S	S	S	S

	PE		PP	
	20°C	40°C	20°C	40°C
Potassium orthophosphate	S	S		
Potassium sulphate	S	S	S	S
Potassium sulphide	S	S	S	S
Propionic acid (100% aq soln)	S	L	L	U
Pyruline	S	L	L	U
Quinol (Hydroquinone)	S	S	S	S
Salicylic Acid	S	S	S	S
Silicic acid	S	S		
Silver acetate	S	S		
Silver cyanide	S	S		
Silver nitrate	S	S	S	S
Sodium acetate	S	S	S	S
Sodium brominate	S	S	S	S
Sodium bromide	S	S	S	S
Sodium carbinat	S	S	S	S
Sodium chlorate	S	S	S	S
Sodium chloride	S	S	S	S
Sodium cyanide	S	S	S	S
Sodium fluoride	S	S	S	S
Sodium hydrogen carb	S	S		
Sodium hydrogen phos	S	S		
Sodium hydrogen sulph	S	S		
Sodium hydroxide	S	S	S	S
Sodium hydroxide (con)	S	S	S	S
Sodium nitrate	S	S	S	S
Sodium nitrate	S	S	S	S
Sodium orthophosphate	S	S		
Sodium	S	S		
Sodium sulphate	S	S	S	S
Sodium sulphate aq soln	S	S		
Stannic chloride	S	S	S	S
Stannous chloride	S	S	S	S
Starch	S	S	S	S
Sulphur	S	S		
Sulphuric acid 10%	S	S	S	S
Sulphuric acid 50%	S	U	S	S
Sulphuric acid 98%	L	U	S	U
Sulphurous acid	S	S	S	S
Sulphur trioxide	U	U		
Tannic acid	S	S	S	S
Tartaric acid	S	S	S	S
Thionyl chloride	U	U		
Toluene	U	U	U	U
Trichloroethylene	L	L	U	U
Triethanolamine	S	L	L	L
Urea	S	S	S	S
Urine	S	S	S	S
Vegetable oils	S	S		
Vinegar	S	S	S	S
Water	S	S	S	S
Wine & Spirits	S	S	S	S
Xylene	U	U	U	U
Yeast	S	S	S	S
Zinc carbonate	S	S	S	S
Zinc chloride	S	S	S	S
Zinc oxide	S	S	S	S
Zinc sulphate	S	S	S	S

S = SATISFACTORY RESISTANCE

The chemical will not cause deterioration if the pipe is not subjected to pressure of other stresses. For applications in which the pipe is exposed to pressure, the final assessment can be made following a test under pressure.

L = LIMITED RESISTANCE

There will be some corrosion of pipe material, but only to a point considered acceptable for the application if not subjected to pressure.

U = UNSATISFACTORY RESISTANCE

The pipe is subject to serious attack and should not be used for pressure or non-pressure applications.

*information used from PPI