

Chemical Resistance in General Use

Resistant = Compatible Limited Resistance= Not Compatible Not Resistant= Not Compatible

	Resistant	Limited Resistance	Not Resistant		Resistant	Limited Resistance	Not Resistant		Resistant	Limited Resistance	Not Resistant
Paint				Disinfectants				Plastics			
Acrylic paints and lacquers		x		Aqueous hypochlorite solution	x			Foams	x		
Aromatic-free hydrocarbons	x			Bleaching powder, to 5%	x			Foams, containing plasticizer			x
Nitrocellulose			x	Carbolic acid			x	Polyamide	x		
Oil paints, pure	x			Hydrogen peroxide, to 40%	x			Polyethylene	x		
Thinners, general			x	Hydrogen peroxide, over 40%		x		PVC	x		
Chemical Process Baths				Lugol solution	x			PVC, plasticized			x
Electroplating baths	x			Mercuric chloride	x			Rubber	x		
Photographic baths	x			Surgical spirit			x	Rubber, containing plasticizer			x
Building Materials and Protective Agents for Buildings				Tincture of iodine, 5%			x	Food and Spices			
Bituminous emulsion			x	Greases, Oils, Waxes				Aniseed, bay, nutmeg	x		
Cement	x			Animal	x			Cloves			x
Hot bitumen		x		Mineral	x			Coffee beans, flavored		x	
Mortar	x			Silicone oil		x		Coffee beans, unflavored	x		
Plaster of Paris	x			Vegetable		x		Honey, pure	x		
Red lead	x							Ice cream	x		

The information on this chart can be used for ACRYLITE® extruded and ACRYLITE® cast sheet. ACRYLITE® extruded sheet is dissolved faster by solvents than ACRYLITE® cast sheet. All information is based on 72°F (23°C) test temperature and stress free material. The practical performance depends on usage temperatures and actual stresses. If you are not sure about your application, please call Evonik CYRO's Technical Service Department.

	Resistant	Limited Resistance	Not Resistant		Resistant	Limited Resistance	Not Resistant		Resistant	Limited Resistance	Not Resistant
Food and Spices Cont.				Beverages				Cleaning Agents Cont.			
Marinades	x			Beer, wine	x			Carbon tetrachloride			x
Meat and fish	x			Chamomile extract	x			Methylated spirits			x
Pepper, cinnamon, onions	x			Chocolate	x			Paraffin		x	
Salt	x			Coffee, tea	x			Perchloroethylene			x
Gases and Vapors				Fruit juice, milk	x			Petrol, pure	x		
Ammonia	x			Nail polish			x	Petrol mixture, containing benzene			x
Bromine vapor (dry)		x		Nail polish remover			x	Petroleum ether	x		
Carbon dioxide	x			Peat water	x			Soap solution	x		
Carbon monoxide	x			Sea water	x			Soda solution	x		
Chloride vapor (dry)		x		Soaps	x			Solvent stain removers			x
Exhaust gases, containing HCl	x			Spirits, to 30%	x			Trichloroethylene			x
Exhaust gases, containing HF	x			Sprays		x		Turpentine		x	
Exhaust gases, containing H ₂ SO ₄	x			Vinegar	x			Turpentine substitute		x	
Hydrogen sulphide	x			Water, mineral water	x			Pest Control Agents			
Methane	x			Cleaning Agents				Aqueous solutions of pesticides		x	
Nitric oxide	x			Acids- see under chemicals				Protective (strippable) Coatings			
Oxygen	x			Alcohol, absolute			x	Grip Mask® *	x		
Ozone	x			Alcohol, to 30%	x			Sign Strip® ** strippable masking		x	
Sulphur dioxide (dry)	x			Alkalis- see under chemicals				Miscellaneous			
Natural gas (butane)	x			Ammonia	x			Urine	x		

*Trademark of Akzo Nobel Coating, Inc., Louisville, KY

**Trademark of Spraylat Corp., Mt. Vernon, NY

	Chemical			Chemical			Chemical		
	Resistant	Limited Resistance	Not Resistant	Resistant	Limited Resistance	Not Resistant	Resistant	Limited Resistance	Not Resistant
Chemicals, Solvents, etc.				Ethyl alcohol, to 15%	X		Phosphoric acid, to 10%	X	
Acetic acid, glacial			X	Ethyl alcohol, 15-30%		X	Phosphorus		X
Acetic acid, to 25%		X		Ethyl alcohol, above 30%		X	Phosphorus trichloride		X
Acetic acid, 5% (vinegar)	X			Ethyl bromide		X	Picric acid 1% in water.	X	
Acetone			X	Ethyl butyrate		X	Potassium carbonate	X	
Alum	X			Ethylene bromide		X	Potassium chloride	X	
Aluminium chloride	X			Ferric chloride	X		Potassium cyanide	X	
Aluminium oxalate	X			Ferrous chloride	X		Potassium dichromate	X	
Aluminium sulphate	X			Ferrous sulphate	X		Potassium hydroxide	X	
Ammonia, aqueous solution	X			Formic acid, to 2%	X		Potassium nitrate	X	
Ammonium sulphate	X			Formic acid, to 40%		X	Potassium permanganate	X	
Amyl acetate			X	Glycerol	X		Silicon tetrachloride		X
Aniline			X	Glycol	X		Silver nitrate	X	
Arsenic	X			Heptane	X		Soap Solution	X	
Arsenic acid	X			Hexane	X		Soda	X	
Battery acid	X			Hydrochloric acid	X		Sodium bisulphite	X	
Benzaldehyde			X	Hydrofluoric acid, to 20%	X		Sodium carbonate	X	
Benzene			X	Hydrogen peroxide, to 40%	X		Sodium chlorate	X	
Bromine			X	Hydrogen peroxide, over 40%		X	Sodium chloride	X	
Butanol		X		Iodine	X		Sodium hydroxide	X	
Butyl lactate			X	Isopropyl alcohol, to 50%		X	Sodium hypochlorite	X	
Butyric acid, to 5%	X			Lactic acid, to 80%		X	Sodium sulphate	X	
Calcium chloride	X			Magnesium chloride	X		Sodium sulphide	X	
Calcium hypochlorite	X			Magnesium sulphate	X		Stearic acid	X	
Carbon disulphide			X	Manganese sulphate	X		Sulphur	X	
Carbon tetrachloride			X	Mercury	X		Sulphur dioxide, liquid		X
Chlorinated hydrocarbons			X	Methanol, absolute		X	Sulphuric acid, to 30%	X	
Chlorine, liquid			X	Methanol, to 15%		X	Sulphurous acid conc.		X
Chlorine water		X		Methyl ethyl ketone		X	Sulphurous acid, to 5%	X	
Chloroethyl acetate			X	Methylated spirits		X	Sulphuryl chloride	X	
Chlorophenol			X	Milk of lime	X		Tartaric acid, to 50%	X	
Chromic acid		X		Monobromonaphthalene	X		Thionyl chloride		X
Citric acid, to 20%	X			Motor fuel, benzene-free	X		Toluene		X
Copper sulphate	X			Motor fuel, with benzene		X	Triethylamine	X	
Cresol			X	Nickel sulphate	X		Trichloroacetic acid		X
Cyclohexane	X			Nitric acid, to 20%	X		Tricresyl phosphate	X	
Diacetone alcohol			X	Nitric acid, 20-70%		X	Turpentine		X
Diamyl phthalate		X		Nitric acid, over 70%		X	Turpentine substitute		X
Dibutyl phthalate			X	Oxalic acid	X		Urea, to 20%	X	
Diethylene glycol	X			Paraffin		X	Xylene		X
Dioxane			X	Perchloroethylene		X	Zinc sulphate, aqueous		X
Ether			X	Petroleum ether	X		Zinc sulphate, solid	X	
Ethyl acetate			X	Phenols		X			

Fire Precautions

ACRYLITE® sheet is a combustible thermoplastic. Precautions should be taken to protect this material from flames and high heat sources. ACRYLITE® sheet usually burns rapidly to completion if not extinguished. The products of combustion, if sufficient air is present, are carbon dioxide and water. However, in many fires sufficient air will not be available and toxic carbon monoxide will be formed, as it will when other common combustible materials are burned. We urge good judgement in the use of this versatile material and recommend that building codes be followed carefully to assure it is used properly.

Compatibility

Like other plastic materials, ACRYLITE® sheet is subject to crazing, cracking or discoloration if brought into contact with incompatible materials. These materials may include cleaners, polishes, adhesives, sealants, gasketing or packaging materials, cutting emulsions, etc. See the Tech Briefs in this series for more information, or contact your ACRYLITE® sheet Distributor for information on a specific product.

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