

# CHEMICAL RESISTANCE DATA

Chemical Name	Plastic																								
	ABS	Acetal	Acrylic	AI	CPVC	ECTFE	ETFE	FEP	Isoplast™	Nylon	PBT	PC	PE-HD	PEEK	PEI	PET	PFA	PP	PPS	PS	PSU	PTFE	PVC(I)	PVC(II)	PVDF
Acetaldehyde Aq.	D	A	D	A	D	-	-	-	B	-	D	C	A	-	A	-	C	A	D	-	A	D	D	-	A
Acetic Acid Aq.	-	B	B	A	A	A	A	A	C	C	D	-	A	A	B	B	-	A	A	A	A	A	A	B	A
Acetone	D	B	D	-	D	A	-	D	A	-	C	A	B	C	B	-	A	A	D	B	A	D	D	D	-
Alcohols, Aliphatic	-	A	D	A	-	A	-	-	B	A	-	-	A	A	A	-	-	A	A	-	-	-	A	-	A
Aluminum Chloride Aq.	-	-	-	A	A	A	A	A	-	A	A	B	A	-	A	B	A	A	A	-	A	A	A	A	A
Aluminum Sulphate Aq.	-	-	-	A	A	A	-	A	-	A	A	A	A	-	-	-	A	A	A	-	A	A	A	-	A
Ammonia Gas	-	-	-	-	A	A	-	A	C	-	-	A	A	-	A	-	A	-	-	-	-	-	A	A	-
Ammonium Carbonate Aq.	-	-	-	-	A	A	-	A	A	A	D	A	A	-	A	-	A	A	A	-	A	A	A	-	-
Ammonium Chloride Aq.	-	-	-	A	A	A	-	A	A	A	C	A	A	A	A	-	A	A	A	-	A	A	A	-	A
Amyl Acetate	-	-	D	A	-	-	-	D	A	-	-	D	A	-	-	-	-	D	A	-	-	A	D	D	-
Aniline	-	A	D	A	D	A	-	-	C	-	-	A	A	-	A	-	C	A	D	-	A	D	D	C	A
Antimony Trichloride Aq.	-	-	A	-	A	A	-	-	C	-	-	A	A	-	-	-	A	-	A	-	-	A	A	-	-
Barium Chloride Aq.	-	-	A	A	A	A	-	-	A	A	-	A	A	-	-	-	A	A	A	-	A	A	A	-	A
Barium Sulphate Aq.	-	-	-	-	A	A	-	A	-	A	-	A	A	-	-	-	A	-	A	-	A	A	A	-	-
Benzene	D	A	D	-	D	A	-	A	A	-	D	D	A	-	A	-	A	A	D	D	A	D	D	C	-
Benzene Sulphate Aq.	-	-	-	C	-	A	-	-	D	-	-	A	A	-	-	-	-	A	-	-	A	-	-	B	C
Bleaching Lye	C	-	-	A	A	A	-	-	C	-	-	B	A	-	-	-	B	-	-	-	-	A	A	-	A
Boric Acid Aq.	-	-	-	-	A	A	-	A	A	D	-	A	A	-	A	-	A	A	C	-	A	A	A	A	-
Boron Trifluoride	-	-	-	-	A	-	-	-	D	-	-	A	-	-	-	-	A	-	-	-	A	A	A	-	-
Bromine Aq.	-	-	-	A	D	A	-	-	D	-	-	D	B	-	-	-	D	A	-	-	-	A	D	-	A
Butanol	-	-	-	A	A	-	-	-	B	-	-	A	A	-	B	-	-	A	D	C	A	A	D	-	A
Butyric Acid Aq.	-	-	C	-	-	-	-	D	B	C	-	D	A	A	-	-	D	A	C	-	A	-	-	A	-
Butyric Acid	D	-	D	-	-	-	-	D	C	C	-	D	A	-	-	-	D	A	C	-	A	A	D	A	-
Calcium Hypochlorite	-	-	-	-	-	A	-	A	D	-	C	A	A	-	A	-	A	A	-	-	-	A	A	-	-
Camphor	-	-	-	-	-	-	-	-	A	-	-	-	A	-	-	-	-	A	-	-	-	-	-	-	-
Carbon Tetrachloride	D	A	-	A	C	A	-	A	A	-	-	D	A	A	A	-	D	A	-	A	A	C	D	A	A

**Grade Code:**

(continued next page)

- A - No attack, possibly slight absorption. Negligible effect on mechanical properties.
- B - Slight attack by absorption. Some swelling and a small reduction in mechanical properties likely.
- C - Moderate attack of appreciable absorption. Material will have limited life.
- D - Material will decompose or dissolve in a short time.

Data from Laird Plastics except ETFE, FEP, PFA, Isoplast, PS, PTFE and PEI.

Data on ETFE, FEP AND PFA are from LNP.

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Data on Isoplast from THE DOW CHEMICAL COMPANY.

CHEMICAL RESISTANCE DATA (continued)

Chemical Name	Plastic																										
	ABS	Acetal	Acrylic	AI	CPVC	ECTFE	ETFE	FEP	Isoplast™	Nylon	PBT	PC	PE-HD	PEEK	PEI	PET	PFA	PP	PPS	PS	PSU	PTFE	PVC(I)	PVC(II)	PVDF	UHMW-PE	
Chloral Hydrate	-	-	-	-	A	-	-	-	-	D	-	-	D	A	-	-	-	D	-	-	-	A	A	A	-	-	
Chlorine Aq.	-	-	-	-	A	-	-	-	-	D	-	-	C	A	-	-	-	B	-	-	D	-	A	A	B	-	
Chloroform	D	-	-	A	D	A	D	-	-	D	-	D	C	A	D	D	-	D	A	-	D	A	D	D	B	-	
Chlorosulphonic Acid Aq.	-	-	D	-	-	A	-	-	-	D	C	-	D	A	-	-	-	C	D	C	-	A	C	C	D	-	
Chrome Alum. Aq.	-	-	-	-	-	-	-	-	-	A	-	-	-	A	-	-	-	-	-	-	-	-	A	A	-	-	
Chromic Acid Aq.	-	-	D	A	A	A	-	-	-	C	C	C	A	A	A	A	-	A	B	C	D	A	A	D	B	A	
Citric Acid Aq.	B	-	C	-	A	A	-	-	A	C	C	A	A	A	A	A	-	A	A	-	A	A	A	A	A	-	
Creosote	-	-	-	-	-	-	-	-	-	A	-	-	-	A	-	-	-	-	-	-	-	-	-	-	-	-	
Cresylic Acid	-	-	-	-	A	A	-	-	-	D	C	-	D	A	-	-	-	D	-	C	-	A	A	C	A	-	
Cyclohexanol	-	-	-	A	D	A	-	-	-	B	B	-	D	A	-	-	-	D	A	D	-	A	D	D	-	A	
Cyclohexanone	-	-	-	A	D	A	-	-	-	D	A	-	-	D	A	A	A	-	D	-	D	D	A	D	D	-	A
Detergents, Organic	-	-	-	-	A	A	-	-	-	A	A	-	-	-	A	A	A	-	-	A	-	-	A	A	-	A	
Dibutylphalate	-	-	-	A	-	-	-	-	-	A	-	-	-	A	-	-	-	-	-	-	-	-	-	-	-	A	
Diesel Oil	-	-	A	A	-	A	-	-	-	A	-	-	-	A	A	A	-	-	A	-	-	A	-	-	-	A	
Dioxan	-	A	-	A	-	A	-	-	-	A	-	-	-	A	-	A	-	-	-	-	-	A	-	-	-	A	
Edible Oils	-	A	-	A	-	-	-	-	-	A	-	-	-	A	-	A	-	-	A	-	-	-	-	-	-	A	
Ether, Diethyl	-	A	-	A	-	-	-	-	-	A	A	-	-	A	A	A	-	-	A	D	-	A	-	-	-	A	
Ethyl Acetate	D	A	D	A	-	A	-	-	-	D	A	-	D	A	C	-	-	A	A	-	-	A	D	D	-	A	
Ethylene Dichloride	D	-	-	A	D	A	-	-	-	B	-	-	C	A	-	A	-	D	A	-	-	A	D	D	-	-	
Ethylene Glycol Aq.	-	-	A	A	A	A	A	A	A	B	-	C	D	A	-	-	A	A	A	-	A	A	A	A	A	A	
Ferrous Chloride Aq.	-	-	A	-	A	A	-	-	-	A	C	A	-	A	A	-	-	-	A	A	-	A	A	A	A	-	
Fluorine	-	-	-	-	A	A	-	-	-	D	-	-	-	D	-	-	-	C	-	-	-	-	A	A	-	C	
Fluosilicic Acid Aq.	-	-	-	-	-	A	-	-	-	D	C	-	C	-	-	-	-	A	A	C	-	A	-	-	-	A	
Freon 12 (Arclon 12)	-	-	-	-	A	A	-	-	-	A	-	A	A	A	A	A	-	A	B	-	-	-	A	A	-	-	
Formaldehyde Aq.	-	A	A	A	A	A	-	-	-	A	B	-	C	A	A	-	A	-	A	A	D	A	A	A	B	A	
Formic Acid Aq.	-	D	D	D	A	A	-	-	-	A	C	C	A	A	B	A	B	-	-	A	-	-	A	A	A	A	
Fruit Juices	A	-	-	A	A	A	-	-	-	A	B	A	C	-	A	-	A	-	A	A	-	-	-	A	A	-	A
Glycerine	A	-	A	A	A	A	-	-	-	A	A	-	A	A	A	-	A	-	A	A	D	A	A	A	A	-	A
Heptane	-	A	-	A	-	A	-	-	-	A	A	-	C	-	A	-	A	-	A	D	A	A	A	A	-	A	
Hydrobromic Acid Aq.	A	-	-	-	-	A	-	-	-	D	C	-	-	D	-	-	-	C	A	C	A	-	A	A	A	A	
Hydrochloric Acid Aq.	-	-	A	-	A	A	A	A	A	-	D	A	A	A	A	A	B	A	A	C	A	A	A	A	A	A	
Hydrofluoric Acid Aq.	C	D	C	A	-	A	-	-	-	D	C	A	B	B	D	-	B	A	A	D	C	B	A	A	A	A	

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CHEMICAL RESISTANCE DATA (continued)

Chemical Name	Plastic																									
	ABS	Acetal	Acrylic	AI	CPVC	ECTFE	ETFE	FEP	Isoplast™	Nylon	PBT	PC	PE-HD	PEEK	PEI	PET	PFA	PP	PPS	PS	PSU	PTFE	PVC(I)	PVC(II)	PVDF	UHMW-PE
Hydrogenate Vegetable Oils	-	-	-	A	-	-	-	-	A	-	-	-	A	-	A	-	-	A	-	-	-	-	-	-	-	A
Hydrogen Peroxide Aq. .5%	-	-	-	-	-	A	-	-	A	C	-	A	A	A	-	A	-	A	A	-	A	-	-	-	B	A
0.01	-	-	-	-	-	A	-	-	A	-	-	A	-	A	-	A	-	-	A	-	A	-	-	-	B	A
0.03	-	D	-	-	-	A	-	-	A	D	-	A	-	A	-	A	-	-	A	-	A	-	-	-	B	A
Hydrogen Sulphide Aq.	-	C	A	-	A	A	-	-	-	B	D	-	A	A	-	C	-	A	A	-	-	A	A	A	A	A
Hydroquinone	-	-	-	-	-	A	-	-	-	B	-	-	A	A	-	-	-	A	-	-	-	A	A	A	-	-
Iodine (in Alcohol)	-	-	-	-	-	A	-	-	-	D	-	-	D	A	-	-	-	B	-	-	-	-	-	-	B	A
Iodine (in Pot. Iodine) Aq.	-	-	-	-	-	A	-	-	-	D	-	-	D	A	-	-	-	B	-	-	-	-	-	-	-	A
Isopropylalcohol	C	A	-	-	-	A	-	-	A	B	-	-	A	A	A	A	-	A	A	-	-	-	-	-	A	A
Lactic Acid Aq. 10%	-	B	-	A	-	A	-	-	A	C	B	A	A	A	-	A	-	A	A	A	-	A	A	A	A	A
0.9	-	-	-	A	-	A	-	-	A	-	C	-	-	A	-	-	-	-	A	C	-	A	-	-	B	A
Lead Acetate Aq.	-	-	-	-	A	A	-	-	A	B	-	-	A	A	-	-	-	A	A	-	-	A	A	A	-	A
Linseed Oil	-	A	-	A	A	A	-	-	-	A	A	A	D	A	-	-	-	-	-	-	-	A	-	A	A	A
Lubricating Oil (Petroleum)	-	A	-	A	A	-	-	-	-	A	A	A	B	C	A	A	-	C	A	A	-	-	A	A	-	A
Magnesium Chloride Aq.	-	A	-	A	A	A	-	-	A	A	A	A	A	A	-	A	-	A	A	A	-	A	A	A	-	A
Malicic Acid	-	-	-	-	A	A	-	-	-	-	C	-	A	A	-	-	A	A	-	-	-	A	A	A	A	A
Maonic Acid Aq.	-	-	-	-	-	-	-	-	-	-	C	-	-	A	-	-	A	-	-	C	-	A	-	-	B	-
Mercuric Chloride Aq.	-	B	A	-	A	A	-	-	A	C	A	-	A	A	-	-	-	A	-	A	A	-	A	A	-	A
Methyl Acetate	-	B	-	-	-	A	-	-	-	A	-	-	-	A	-	A	-	-	A	-	-	A	-	-	-	-
Methyl Ethyl Ketone	D	B	D	A	D	A	-	-	D	A	D	D	D	A	D	A	-	D	A	D	-	A	D	D	-	A
Methyl Chloride	-	C	-	-	D	A	-	-	D	C	-	D	D	A	-	D	-	D	A	-	D	A	D	D	-	B
Milk	B	A	-	-	A	A	-	-	A	A	-	A	A	A	-	A	-	A	A	-	A	-	A	A	-	A
Mineral Oils	-	A	-	A	A	A	-	-	A	A	A	C	B	A	-	-	-	C	A	-	-	-	A	A	A	A
Naphthalene	D	-	-	-	D	A	-	-	A	A	-	-	B	A	A	A	-	B	A	-	-	-	D	D	C	A
Nickel Sulphate Aq.	-	-	A	-	A	A	-	-	A	A	-	A	A	A	-	-	-	A	A	A	-	A	A	A	-	A
Nitric Acid Aq. 1%	B	D	A	-	A	A	B	A	A	C	C	A	A	A	A	-	A	A	-	A	-	A	A	A	A	A

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- A - No attack, possibly slight absorption. Negligible effect on mechanical properties.
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Nitric Acid Aq. 10%		-	D	-	-	A	A	B	-	B	D	D	-	-	A	A	C	B	-	A	C	A	A	A	A	B	A	
Oxalic Acid		-	C	-	-	-	A	-	-	-	A	C	C	A	A	-	-	A	B	A	C	A	A	A	A	A	A	
Oxalic Acid Aq.		-	C	A	-	A	A	-	-	-	C	C	-	A	A	-	-	A	A	A	D	A	A	A	A	C	A	
Ozone		-	C	-	-	A	A	-	-	-	C	-	D	D	A	-	A	-	C	-	-	A	-	A	A	B	A	
Paraffin		-	A	-	A	-	A	-	-	-	A	-	-	-	A	-	A	-	-	A	-	-	-	A	-	-	A	
Perchloric Acid Aq.		-	C	-	-	A	A	-	-	A	D	C	-	B	A	-	A	A	C	-	C	-	A	A	A	A	A	
Petrol		-	A	-	A	-	A	-	-	-	A	A	-	A	A	-	A	-	-	A	D	-	-	-	-	-	A	
Phenol Aq.		-	D	-	-	-	A	-	-	D	D	-	-	-	D	D	C	-	-	-	D	-	A	-	-	C	B	
Phosphoric Acid Aq. 3%		-	C	-	A	A	A	-	-	-	-	C	-	-	A	A	A	A	-	A	B	A	A	A	A	A	A	
Phosphoric Acid aq. 10%		-	C	-	A	A	A	-	-	-	D	D	-	-	A	A	B	B	-	A	C	A	A	A	A	A	A	
Phthalic Acid Aq.		-	-	-	-	-	-	-	-	-	B	C	-	-	A	-	-	A	-	-	D	-	A	-	-	B	A	
Potassium Bicarb. Aq.		-	-	-	-	A	-	-	-	A	A	-	-	A	A	A	A	-	A	A	-	-	-	A	A	-	A	
Potassium Chloride Aq.		A	-	A	-	A	A	-	-	A	A	A	A	A	A	A	A	-	A	A	A	-	A	A	A	-	A	
Potassium Ferrocyanide Aq.		-	-	A	-	A	A	-	-	A	A	-	-	-	A	-	-	-	-	-	-	-	-	A	A	-	A	
Propane Gas		-	-	-	-	A	A	-	-	-	A	-	-	D	B	-	A	-	C	A	-	-	A	A	A	-	A	
Salicylic Acid		-	-	-	-	-	A	-	-	-	A	C	-	-	A	-	A	A	-	-	D	-	A	-	-	A	A	
Silicone Fluids		D	-	-	A	-	A	-	-	-	A	-	-	-	A	-	A	-	-	A	-	-	-	-	-	-	A	
Silver Nitrate		-	A	-	-	A	A	-	-	-	A	A	-	A	A	-	A	-	A	A	A	-	A	A	A	-	-	
Soap Solutions		B	A	-	-	A	A	-	-	-	A	-	-	A	A	-	A	-	A	A	-	-	-	A	A	-	A	
Sodium Acetate Aq.		-	-	A	-	A	A	-	-	A	B	A	-	A	A	-	A	-	A	A	A	-	A	A	A	A	-	
Sodium Bicarbonate Aq.		-	A	A	A	A	A	-	-	A	A	-	A	A	A	-	A	-	B	A	-	-	A	A	A	-	A	
Sodium Hypochlorite 15%Cl		-	C	A	A	-	A	-	-	A	D	-	A	A	A	-	A	-	A	B	A	-	A	A	A	-	A	
Sodium Nitrate Aq.		-	A	A	-	A	A	-	-	A	C	A	-	A	A	-	A	-	A	A	A	-	A	A	A	-	A	
Stannic Chloride Aq.		-	-	-	-	-	-	-	-	A	A	A	-	A	A	-	-	-	A	-	-	-	A	-	-	-	-	
Stearic Acid		-	-	-	-	A	A	-	-	-	A	C	-	A	A	-	-	A	A	A	-	-	A	A	A	-	A	
Styrene (Monomer)		-	-	-	-	-	A	-	-	-	A	-	-	-	A	-	C	-	-	A	C	-	-	-	-	-	-	
Sulphuric Acid Aq. 2%		B	D	D	A	A	A	B	A	A	C	C	A	A	A	A	A	A	A	A	A	A	A	A	A	A	B	A
0.05		-	D	-	A	-	A	-	-	-	D	D	-	-	A	A	A	B	-	A	C	A	A	A	A	B	A	
Sulphurous Acid Aq.		-	C	A	-	A	A	-	-	-	D	C	-	A	A	-	C	-	A	A	-	C	-	A	A	-	A	
Tallow		-	-	-	A	-	-	-	-	-	A	-	-	A	A	-	-	-	-	A	-	-	-	-	-	-	A	
Tar		-	-	-	A	-	A	-	-	-	B	-	D	-	A	-	-	-	-	-	A	-	-	-	-	-	-	
Toluene		-	A	-	A	D	-	-	-	-	A	-	-	D	A	D	A	-	D	A	-	D	-	D	D	B	B	

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CHEMICAL RESISTANCE DATA (continued)

Chemical Name	Plastic	ABS	Acetal	Acrylic	AI	CPVC	ECTFE	ETFE	FEP	Isoplast™	Nylon	PBT	PC	PE-HD	PEEK	PEI	PET	PFA	PP	PPS	PS	PSU	PTFE	PVC(I)	PVC(II)	PVDF	UHMW-PE
Transformer Oil		-	-	D	A	-	A	A	A	-	A	-	-	-	A	A	-	B	-	A	-	-	-	-	-	-	A
Trichlorethylene		-	B	-	A	D	A	-	-	C	B	-	-	D	A	D	-	-	D	A	-	D	-	D	D	-	B
Triethanolamine		-	-	-	D	-	A	-	-	-	A	-	D	A	A	-	A	-	A	A	-	-	-	A	A	-	A
Turpentine		D	A	-	A	A	A	-	-	A	A	-	-	D	A	-	-	-	D	A	D	B	A	A	C	-	A
Trisodium Phosphate Aq.		-	-	A	-	A	A	-	-	-	-	C	-	A	A	-	B	-	A	A	-	-	-	A	A	-	-
Urea		-	A	-	-	A	A	-	-	-	A	-	A	A	A	-	B	-	A	A	-	-	-	A	A	-	A
Vaseline		B	A	-	A	A	A	-	-	-	A	-	-	A	A	-	-	-	-	A	-	-	-	A	A	-	A
Vegetable Oils		C	A	-	A	-	A	-	-	-	A	-	-	-	A	-	A	-	-	A	-	-	A	-	-	-	A
Vinegar		A	B	-	A	A	A	-	-	A	C	-	-	A	A	-	A	-	A	A	-	-	-	A	A	-	A
Vinyl Chloride		-	-	-	-	-	-	-	-	-	A	-	-	-	A	-	-	-	-	A	-	-	-	-	-	-	-
Water		A	A	-	A	A	A	A	A	A	A	C	A	A	A	-	A	A	A	A	A	A	A	A	A	-	A
Wax (Molten)		C	A	-	A	-	A	-	-	-	A	-	-	-	A	-	A	-	-	A	-	-	-	-	-	-	A
White Spirit		-	A	-	-	A	A	-	-	-	A	-	-	-	A	-	-	-	-	A	-	-	-	-	-	-	A
Wines and Spirits		B	-	-	A	A	A	-	-	-	B	-	A	-	A	-	A	-	-	A	-	-	-	A	A	-	A
Xylene		D	-	D	A	D	A	-	-	A	D	-	-	D	A	C	A	-	D	A	D	D	A	D	D	-	B
Xylenol		-	-	-	A	-	A	-	-	-	D	-	-	-	A	-	-	-	-	-	-	D	-	A	-	-	-
Zinc Chloride Aq.		-	-	A	-	-	A	-	-	A	C	A	C	A	A	A	-	-	A	A	A	A	A	A	A	-	A

Grade Code:

- A - No attack, possibly slight absorption. Negligible effect on mechanical properties.
- B - Slight attack by absorption. Some swelling and a small reduction in mechanical properties likely.
- C - Moderate attack of appreciable absorption. Material will have limited life.
- D - Material will decompose or dissolve in a short time.

Data from Laird Plastics except ETFE, FEP, PFA, Isoplast, PS, PTFE and PEI.

Data on ETFE, FEP AND PFA are from LNP.

Data on PEI from GE.

Data on Isoplast from THE DOW CHEMICAL COMPANY.