

# Physicochemical properties of **PLASTIC MATERIALS**

The following tables present properties of plastic materials which we offer to our customer.

Data presented in these tables will allow you to determine if the chemical resistance of the materials is accordance with your requirements.

## Physical properties of plastic materials:

Full name of material	Properties				
	Density [g/cm <sup>3</sup> ]	Combustibility	Chemical resistance	Operating temperature	Insulator
Polivinyll chloride (PVC)	1,42	Not easily flammable	Organic acids, spent alkalies	0 to +60	Yes
Polypropylene (PP)	0,95	Flammable	Solvents alcohols	0 to +80	Yes
Polypropylene low flammability (PPs)	0,95	Not easily flammable	Solvents alcohols	0 to +90	Yes
Electrically conductive copolymer, flame-retardant (PP-EL-s)	1,23	Not easily flammable	Solvents alcohols	0 to +80	No
Polyvinylidene fluoride (PVDF)	1,78	Not easily flammable	Fluoride, Oxidising agents	-30 to +120	Yes
Polyethylene (PE)	0,95	flammable	Solvents alcohols	-50 to +70	Yes

## Chemical properties of plastic materials:

Material	Specification
Polivinyll chloride (PVC)	+ high resistant
Polypropylene (PP)	- no resistant
Polyphenylene sulfide (PPs)	\ no tests
Homopolymer Polypropylene (PP-EL-s)	
Polyvinylidene fluoride (PVDF)	(+) conditionally resistant (damage was found after prolonged contact, e.g. structure degradation)
Polyethylene (PE)	

Chemical compounds	PE	PP	PVDF	PPs	PVC	PP-EL-s
Acetamide 50 %	\	\	+	\	\	\
Acetone, water solution 10 %	(+)	+	(+)	+	-	+
Ammonium,	+	(+)	+	+	+	+
Ink	+	+	+	\	\	\
Sodium Nitrate, water solution 10 %	+	+	+	+	\	+
Benzene	(+)	+	+	(+)	-	(+)
Fuel	(+)	+	+	+	+	+
Bitumen	(+)	(+)	\	\	\	\
Butyl acetate	(+)	(+)	+	+	\	+
Tin chloride, water solution 10 %	+	+	+	+	\	+
Methylene chloride	(+)	-	+	(+)	-	(+)
Sodium chloride, water solution 10 %	+	+	+	+	\	+
Calcium chloride, water solution 10 %	+	+	+	+	\	+
Ethylene chlorid, water solution 10 %	(+)	+	\	\	\	\

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Chlorobenzene	-	(+)	\	(+)	-	(+)
Chloroform	-	\	+	(+)	\	(+)
Clophen A60, 50%	+	+	\	\	\	\
Cyclohexane	+	+	+	+	\	+
Cyclohexanone	+	+	(+)	+	\	+
Carbon tetrachloride	-	-	+	\	\	\
Tetrahydrofuran	(+)	(+)	+	+	\	+
Decalin	+	+	\	\	\	\
Dimethylformamide	+	-	\	+	\	+
Dioxane	(+)	+	+	+	\	+
Carbon disulfide	(+)	+	+	\	(+)	\
Ethanol 96%	+	+	+	+	\	+
Phenole, water solution	+	+	+	(+)	\	(+)
Formaldehyde	+	+	+	+	\	+
Formamide	(+)	(+)	\	\	+	\
Freon	(+)	-	\	+	+	+
Glycerine	+	+	+	\	+	\
Glycol	+	+	+	+	\	+
Glysantin	+	+	+	+	\	+
Heptane	-	+	\	+	\	+
Isooctane	+	+	\	\	\	\
Isopropanol	+	+	+	+	\	+
Iodine	+	+	\	\	\	\
Methyl ethyl keton	+	+	(+)	+	\	+
Xylene	-	-	+	+	-	+
Nitric acid, water solution 2 %	+	+	+	+	\	+
Boric acid, water solution 10 %	+	+	+	\	\	\
Citric acid, water solution 10 %	+	+	+	\	\	\
Hydrofluoric acid 40 %	+	+	\	\	\	\
Phosphoric acid, water solution 10%	\	\	\	+	\	+
Concentrated Phosphoric acid	+	+	+	+	\	+
Lactic acid, water acid 10 %	+	+	+	+	\	+
Lactic acid, water acid 90 %	+	+	+	+	\	+
Formic acid, water solution 10 %	+	+	+	+	\	+
Acetic acid, water solution 10 %	+	+	+	+	\	+
Acetic acid, water solution 5 %	+	+	+	+	\	+
Concentrated acetic acid	+	+	\	+	\	+
Salicylic acid	\	\	+	\	\	\
Sulfuric acid, water solution 2 %	+	+	+	+	\	+
Concentrated sulfuric acid 98 %	(+)	+	(+)	\	\	\
Hydrochloric acid, water acid 2 %	+	+	+	(+)	\	(+)
Hydrochloric acid, water acid 36 %	+	+	+	(+)	\	(+)
Oxalic acid, water solution 10 %	+	+	+	\	\	\
Wine acid	+	+	+	\	\	\
Fruits acids	+	+	\	\	\	\
Potassium lye, water solution 10 %	+	+	(+)	+	\	+
Potassium lye, water solution 50 %	+	+	-	+	\	+
Sodium lye, water solution 5 %	+	+	+	+	\	+
Sodium lye, water solution 50 %	+	+	+	+	\	+

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Methanol	+	+	+	+	\	+
Milk	+	+	+	\	+	\
Urea, water solution	+	+	\	\	+	\
Tetrachlorethylene	-	-	+	(+)	\	(+)
Potassium permanganate	+	+	+	+	\	+
Paraffin	+	+	+	+	+	+
Nitrobenzene	+	+	\	(+)	-	(+)
Linseed oil	+	+	+	+	\	+
Diesel fuel	+	+	+	+	+	+
Heating oil	+	(+)	+	+	\	+
Paraffin oil	+	+	+	\	\	\
Motor oil	+	+	+	\	\	\
Transformer oil	+	(+)	+	+	\	+
Ozone	(+)	\	+	\	+	\
Pyridine	(+)	(+)	+	(+)	\	(+)
Propanol	+	+	+	\	\	\
Solvent, water solution	\	\	\	\	\	\
Copper sulphate, 10 %	+	+	+	+	\	+
Hydrogen sulfid saturated	+	+	\	\	\	\
Tar	\	+	\	\	+	\
Sodium, water solution 10 %	+	+	+	\	\	\
Styrene	(+)	(+)	\	\	\	\
Tetralin	(+)	\	\	\	\	\
Fats	+	+	+	+	\	+
Toluene	(+)	+	+	(+)	-	(+)
Trilon B, water solution 10 %	\	\	\	\	\	\
Trichloroethylene	-	(+)	+	(+)	-	(+)
Triethylamine	+	+	\	(+)	\	(+)
Sodium thiosulfate , water solution	+	+	+	+	\	+
Vaseline	(+)	+	+	\	\	\
Sodium carbonate	+	+	+	+	\	+
Wine	+	+	+	\	\	\
Hot water	+	+	+	+	\	+
Soapy water	+	+	\	\	\	\
Hydrogen peroxide, water solution 0,5%	+	+	+	+	\	+
Hydrogen peroxide, water solution 30%	+	+	+	(+)	\	(+)
Cold water	+	+	+	+	\	+
Wax	(+)	(+)	+	\	\	\