Plastics Reference

	Suitable for Microwaves	Suitable for Autoclaving	Transparency	Max. Operating Temp. (°C)	Brittleness Temp (°C)	Density (g/cm³)
ECTFE	Yes	Yes	Translucent	150	-100	1.70
HDPE	Yes	No	Translucent	105	-50	0.95
LDPE	Yes	No	Translucent	80	-50	0.92
PC	Yes	Yes*	Transparent	125	-130	1.20
PFA	Yes	Yes	Translucent	250	-270	2.15
PMP	Yes	Yes	Transparent	150	0	0.83
POM	No	Yes*	Opaque	130	-40	1.42
PP	Yes	Yes	Translucent	125	0	0.90
SAN	No	No	Transparent	70	-40	1.03

*Frequent autoclaving may reduce mechanical stability

+	o	-
Excellent chemical resistance	**Good to limited resistance**	**Poor chemical resistance**
Continuous exposure to the substance does not cause damage within 30 days. The plastic may remain resistant for years.	Continuous exposure to the substance causes minor damages, some of which is reversible, within 7-30 days (e.g., swelling, softening, decrease of mechanical strength, discoloration.)	Not suitable for continuous meduim exposure to the substance. Immediate damage may occur (loss of mechanical strength, deformation, discoloration, cracking, dissolution.)

Chemical resistance of plastics to classes of substances at 20°C

	SAN	PC	POM	PMP	LDPE	HDPE	PP	ECTFE	PFA
Alcohols, aliphatic	+	+	+	+	+	+	+	+	+
Ether	-	-	+	-	o	o	o	+	+
Aldehydes	-	o	o	o	+	+	+	+	+
Ester	-	-	-	o	o	o	o	+	+
Hydrocarbons, aliphatic	-	o	+	o	o	+	+	+	+
Hydrocarbons, aromatic	-	-	+	-	o	+	o	+	+
Hydrocarbons, halogenated	-	-	+	-	o	o	o	+	+
Ketones	-	-	+	o	o	o	o	o	+
Alkalis	+	-	+	+	+	+	+	+	+
Acids, strong or concentrated	-	-	-	+	+	+	+	+	+
Acids, weak or diluted	o	o	-	+	+	+	+	+	+
Oxidizing acids, oxidizing agents	-	-	-	-	-	-	-	+	+

Abbreviations of the described plastics to DIN 7728

SAN Styrene Acrylonitrile Copolymer
PMMA Polymethylmethacrylate
PC Polycarbonate
POM Polyoxymethylene
LDPE Low density Polyethylene
HDPE High density Polyethylene
PP Polypropylene
PMP Polymethylpentene
ECTFE Ethylene-chlorotrifluoroethylene copolymer
FEP Perfluoroethylene-propylene copolymer
PFA Perfluoroalkoxy copolymer

BRANDTECH SCIENTIFIC, INC.