







Data Sheet Plastic Vial Materials

Material	PP (Polypropylene)	HDPE (High Density Polyethylene)	PFA/PTFE (Teflon)	PMP (Polymethylpentene) (TPX)
				
Max Use Temperature	135°C	120°C	250°C	175°C
Heat Deflection Temperature ¹	107°C	65°C	166°C	85°C
Brittleness Temperature ⁷	0°C	-100°C	-270°C	20°C
Transparency	Translucent	Translucent	Translucent	Clear
Microwavability ²	Yes	No	Yes	Yes
Autoclaving ³	Yes	No	Yes	Yes
Gas ³	Yes	Yes	Yes	Yes
Dry Heat ³	No	No	Yes	Yes
Radiation ³	No	Yes	No	No
Disinfectants	Yes	Yes	Yes	Yes
Specific Gravity	0.9	0.95	2.15	0.83
Flexibility	rigid	rigid	excel	rigid
Permeability N₂	744 mL mm/m ² 24hr Bar	651 mL mm/m ² 24hr Bar	4,511 mL mm/m ² 24hr Bar	17,050 mL mm/m ² 24hr Bar
Permeability O₂	3,720 mL mm/m ² 24hr Bar	2,868 mL mm/m ² 24hr Bar	13,656 mL mm/m ² 24hr Bar	69,750 mL mm/m ² 24hr Bar
Permeability CO₂	12,400 mL mm/m ² 24hr Bar	8,990 mL mm/m ² 24hr Bar	35,030 mL mm/m ² 24hr Bar	N/A
Water Adsorption	<0.02	<0.01	<0.03	0.01
Non-cytotoxicity ⁵	Yes	Yes	Yes	Yes
Food and Beverage use Rating	Yes	Yes	No	Yes
CFR21 ⁶	177.152	177.152	--	177.152



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Chromacol Plastic Vials

Part Number	Description	Pack Size	Dimensions (mm)	Material
4-PPNWV-C	4mL PP Neckless Vial for Waters 48 with a PE Cap	100	15 x 36	PP
1-PPNWV-C	1mL PP Neckless Vial for Waters 96 with a PE Cap	250	8 x 40	PP
07-HRPPNWV-C	0.7mL PP High Recovery Neckless Vial and Plug for Waters 96	250	8 x 40	PP
07-HRPMPCV	0.7mL PMP Crimp Vial - High Recovery	100	12 x 32	PMP
06-PECV	0.6mL Polyethylene Crimp Top Vial	500	12 x 32	HDPE
06-PPCV	0.6mL Polypropylene Crimp Top Vial	500	12 x 32	PP
03-PECV	0.3mL Polypropylene Crimp Top Vial	500	12 x 32	HDPE
06-PESV	0.6mL Polyethylene Screw Top Vial	500	12 x 32	HDPE
06-PPSV	0.6mL Polypropylene Screw Top Vial	500	12 x 32	PP
03-PPSV	0.3mL Polypropylene Screw Top Vial	500	12 x 32	PP
2-CTV	2mL PTFE Crimp Top Vial, 12 x 32mm	25	12 x 32	PTFE
06-CTVT	0.6mL Tapered PTFE Crimp Top Vial, 12 x 32mm	25	12 x 32	PTFE
03-CTVT	0.3mL Tapered PTFE Crimp Top Vial, 12 x 32mm	25	12 x 32	PTFE

Plastic Properties

- Heat Deflection Temperature is the temperature at which a bar deflects 0.01" at 66 psig (ASTM D648). Materials may be used above Heat Deflection temperatures in non-stress applications; see Max. Use Temp.
- Ratings based on 5-minute tests using 600 watts of power on exposed, empty vial. CAUTION: Do not exceed Max. Use Temp., or expose vial to chemicals which heating cause to attack the plastic or be rapidly absorbed.
- STERILIZATION:
 - Autoclaving (121°C, 15 psig for 20 minutes) -- Clean and rinse items with distilled water before autoclaving. (Always completely disengage thread before autoclaving.) Certain chemicals that have no appreciable effect on resins at room temperature may cause deterioration at autoclaving temperatures unless removed with distilled water beforehand.
 - Gas -- Ethylene Oxide, formaldehyde, hydrogen peroxide
 - Dry Heat (160°C, 120 minutes)
 - Disinfectants -- Benzalkonium chloride, formalin/formaldehyde, ethanol, etc.
 - Radiation -- gamma irradiation at 25 kGy (2.5 MRad) with unstabilized plastic.
- Sterilizing reduces mechanical strength.
- "Yes" indicates the resin has been determined to be non-cytotoxic, based on USP and ASTM biocompatibility testing standards utilizing an MEM elution technique on a WI38 human diploid lung cell line.
- Resins meet requirements of CFR21 section of Food Additives Amendment of the Federal Food and Drug Act. End users are responsible for validation of compliance for specific containers used in conjunction with their particular packaging applications.
- The brittleness temperature is the temperature at which an item made from the resin may break or cracked if dropped. This is not the lowest use temperature if care is exercised in use and handling.