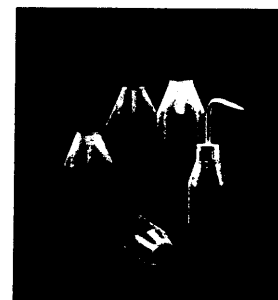


Physical Properties & Chemical Resistance of Plastics

Low Density Polyethylene (LDPE)

The first of the polyolefins originally prepared some fifty years ago by the high pressure polymerisation of ethylene. Its comparatively low density arises from the presence of a small amount of branching in the chain (on about 2% of the carbon atoms). This gives a more open structure. LDPE is a most useful and widely used plastic. It is translucent to opaque, robust enough to be virtually unbreakable and at the same time quite flexible. Chemically LDPE is unreactive at room temperature although it is slowly attacked by strong oxidising agents and some solvents will cause softening or swelling. It may be used at temperatures up to 95°C for short periods and at 80°C continuously. LDPE is ideally suited for a wide range of laboratory apparatus including washbottles, pipette washing equipment and tanks.



☐ Acids - dilute	☐ Hydrocarbons - aromatic	☐ -50 Min temp °C	☐ EX Flexibility
☐ Acids - concentrated	☐ Hydrocarbons - halogenated	☐ NO Autoclavable	☐ 20 Gas permeability N ₂
☐ Alcohols	☐ Ketones	☐ YES Gas sterilisation	☐ 280 Gas permeability CO ₂
☐ Aldehydes	☐ Oils, mineral	☐ NO Dry heat sterilisation	☐ 60 Gas permeability O ₂
☐ Bases	☐ Oils, vegetable	☐ YES Gamma irradiation sterilisation	☐ <0.01 Water absorption %
☐ Esters	☐ Oxidising agents	☐ YES Chemical disinfectant sterilisation	☐ >10 ¹⁸ Resistivity Ohm CM ²
☐ Hydrocarbons - aliphatic	☐ 80 Max temp °C	☐ TL Transparency	☐ 0.92 Specific gravity

mm cm³/cm² sec (cm Hg) x 10¹⁰

High Density Polyethylene (HDPE)

A linear polymer prepared from ethylene by a catalytic process. The absence of branching results in a more closely packed structure with a higher density and somewhat higher chemical resistance than LDPE. It is also somewhat harder and more opaque and it can withstand rather higher temperatures (120°C for short periods, 110°C continuously). It lends itself particularly well to blow moulding, e.g. for bottles and containers.



☐ Acids - dilute	☐ Hydrocarbons - aromatic	☐ -100 Min temp °C	☐ R Flexibility
☐ Acids - concentrated	☐ Hydrocarbons - halogenated	☐ NO Autoclavable	☐ 3 Gas permeability N ₂
☐ Alcohols	☐ Ketones	☐ YES Gas sterilisation	☐ 45 Gas permeability CO ₂
☐ Aldehydes	☐ Oils, mineral	☐ NO Dry heat sterilisation	☐ 10 Gas permeability O ₂
☐ Bases	☐ Oils, vegetable	☐ YES Gamma irradiation sterilisation	☐ <0.01 Water absorption %
☐ Esters	☐ Oxidising agents	☐ YES Chemical disinfectant sterilisation	☐ >10 ¹⁸ Resistivity Ohm CM ²
☐ Hydrocarbons - aliphatic	☐ 120 Max temp °C	☐ TL Transparency	☐ 0.95 Specific gravity

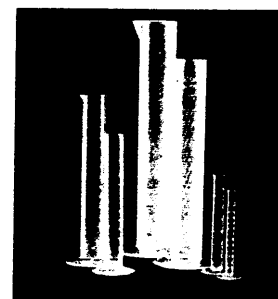
mm cm³/cm² sec (cm Hg) x 10¹⁰

Polypropylene (PP)

A polymer prepared catalytically from propylene which differs from HDPE by having an isotactic replacement of a hydrogen atom by a methyl group on alternate carbon atoms in the main chain. Although largely unreactive chemically the presence of the methyl groups makes it slightly more susceptible to attack by strong oxidising agents than HDPE. A major advantage is its higher temperature resistance. It makes it particularly suitable for items such as douche cans, trays and instrument jars that have to be sterilised frequently for use in a clinical environment. PP is a translucent material with excellent mechanical properties and it has gradually replaced the polyethylenes for many purposes.



A



☐ Acids - dilute	☐ Hydrocarbons - aromatic	☐ 0 Min temp °C	☐ R Flexibility
☐ Acids - concentrated	☐ Hydrocarbons - halogenated	☐ YES Autoclavable	☐ 4.4 Gas permeability N ₂
☐ Alcohols	☐ Ketones	☐ YES Gas sterilisation	☐ 92 Gas permeability CO ₂
☐ Aldehydes	☐ Oils, mineral	☐ NO Dry heat sterilisation	☐ 28 Gas permeability O ₂
☐ Bases	☐ Oils, vegetable	☐ NO Gamma irradiation sterilisation	☐ <0.02 Water absorption %
☐ Esters	☐ Oxidising agents	☐ YES Chemical disinfectant sterilisation	☐ >10 ¹⁸ Resistivity Ohm CM ²
☐ Hydrocarbons - aliphatic	☐ 135 Max temp °C	☐ TL Transparency	☐ 0.90 Specific gravity

mm cm³/cm² sec (cm Hg) x 10¹⁰

713 8301 =

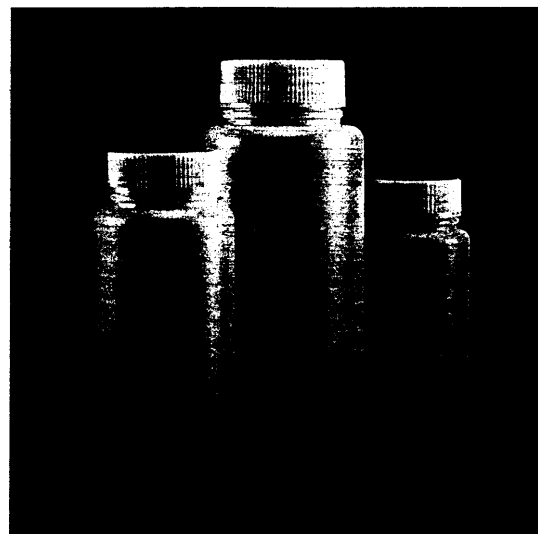
Azlon

Bottles, HDPE, Heavy Duty, Wide Neck

Translucent, rigid and leak-proof. These high quality, heavy duty bottles feature easy to fill wide necks with non stick natural polypropylene screw caps. Excellent general chemical resistance. Ideal for storage and sampling of liquids and solids. Supplied capped, in shrink-wrap packs. All sizes feature S.P.I. recycling codes on their base.



Reference	Capacity ml	Height mm	o.d. mm	Neck i.d. mm
BWH0030PN	30	72	32	21
BWH0060PN	60	84	39	26
BLH0125P	125	100	50	32
BLH0150P	150	114	50	32
BWH0250PN	250	145	60	35
* BWH0500PN	500	165	75	45
BWH1000PN	1000	209	90	54
BWH2000P	2000	245	120	54



Bottles, Polypropylene, Heavy Duty, Wide Neck

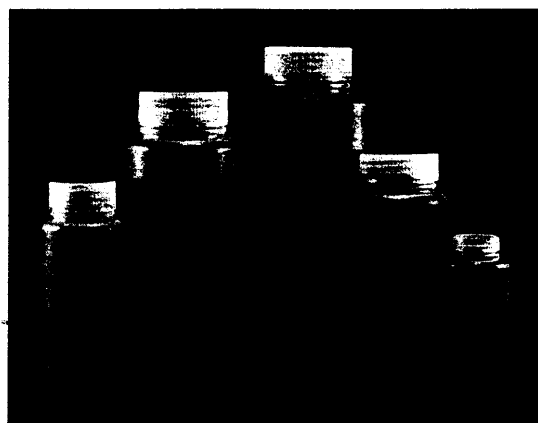
Translucent, rigid, leak-proof and autoclavable. These high quality, heavy duty bottles feature easy to fill wide necks with non-stick natural polypropylene screw caps. Excellent general chemical resistance. Ideal for storage and sampling of liquids or solids, and media preparation. Supplied capped, in shrink-wrap packs. All sizes feature S.P.I. recycling codes on their base.



A

N.B. When autoclaving always ensure caps are loosened or removed to prevent accidental implosion.

Reference	Capacity ml	Height mm	o.d. mm	Neck i.d. mm
BWP0030PN	30	72	32	21
BWP0060PN	60	84	39	26
BLP0125P	125	100	50	32
BLP0150P	150	114	50	32
BWP0250PN	250	145	60	35
BWP0500PN	500	165	75	45
BWP1000PN	1000	209	90	54
BWP2000P	2000	245	120	54



Bottles, Polypropylene, Heavy Duty, Wide Neck, Amber

Rigid, leak-proof, opaque, and autoclavable. These high quality amber bottles feature wide necks with non-stick black polypropylene screw caps. Excellent chemical and light resistance, ideal for storage and sampling of light sensitive liquids and solids. Supplied capped, in shrink-wrap packs. Bottles over 150ml feature S.P.I. recycling codes on their base.



A

N.B. When autoclaving always ensure caps are loosened or removed to prevent accidental implosion.

Reference	Capacity ml	Height mm	o.d. mm	Neck i.d. mm
BWP0060AP	60	85	39	21
BWP0150AP	150	104	50	26
BWP0250AP	250	145	60	35
BWP0500AP	500	165	75	45
BWP1000AP	1000	209	90	54
BWP2000AP	2000	245	120	54

