


The Azlon®


REUSABLE PLASTIC LABWARE
TECHNICAL GUIDE




SciLabware

These icons provide a quick guide as to the chemical resistance of the polymers and can be found throughout the catalogue where appropriate.

 Moderate resistance to common aqueous laboratory chemicals, but avoid organic solvents, strong acids and bases

 Good general resistance to a range of laboratory chemicals including acids, bases and some solvents
Excellent resistance to most laboratory chemicals



 Can be subjected to autoclaving at 121°C without damage to the polymer.

Please note - where no resistance icon is shown, this product is made from several materials. In this instance please refer to the chemical resistance/physical properties chart for each polymer.

Polypropylene, PP

- Translucent rigid polymer
- Temperature range -20 to +135°C
- Autoclavable at 121°C
- Good to excellent chemical resistance
- Resistant to fatigue making it tough
- Typically used for beakers, bottles and cylinders



Polytetrafluoroethylene, PTFE

- Opaque rigid polymer
- Wide temperature range -200 to +260°C
- Autoclavable at 121°C
- Unrivalled resistance to almost all chemicals
- Extremely low friction coefficient
- Typically used for bottles, beakers and stirrers



Low Density Polyethylene, LDPE

- Translucent flexible polymer
- Narrow temperature range of -50 to +80°C
- Not autoclavable at 121°C
- Good to excellent chemical resistance
- Robust and virtually unbreakable
- Typically used for wash bottles



Polymethylmethacrylate, Acrylic (PMMA)

- Transparent rigid polymer
- Narrow temperature range -60 to +50°C
- Not autoclavable at 121°C
- Moderate chemical resistance
- Very tough and high clarity
- Typically used for radiation shields



High Density Polyethylene, HDPE

- Translucent rigid polymer
- Broad temperature range of -100 to +120°C
- Not autoclavable at 121°C
- Good to excellent chemical resistance
- High tensile strength making it very tough
- Typically used for bottles



Polystyrene, PS

- Transparent rigid polymer
- Narrow temperature range -40 to +90°C
- Not autoclavable at 121°C
- Moderate chemical resistance
- Brittle yet has excellent clarity
- Typically used for container ware



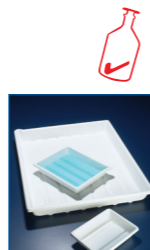
Polymethylpentene, PMP (TPX)

- Transparent rigid polymer
- Broad temperature range -180 to +145°C
- Autoclavable at 121°C
- Good to excellent chemical resistance
- Has a low density and a high clarity
- Typically used for beakers and cylinders



Polyvinylchloride, PVC

- Rigid polymer
- Narrow temperature range -25 to +70°C
- Not autoclavable at 121°C
- Moderate chemical resistance
- Rigid or flexible, coloured or clear
- Typically used for trays and troughs



Polycarbonate, PC

- Transparent rigid polymer
- Broad temperature range -135 to +135°C
- Autoclavable at 121°C
- Moderate chemical resistance
- High impact strength
- Typically used for safety shields



Polybutylene terephthalate, PBT

- Opaque rigid polymer
- Wide temperature range -40°C to +180°C
- Autoclavable at 121°C
- Mechanically strong engineering polymer
- Good resistance to chemicals
- Typically used for screw caps and connectors



| | LDPE | HDPE | PP | PMP (TPX) | PC | PS | PMMA | PTFE | PBT |
|--------------------|----------------------|-------------|-------------|-----------|----------|-------|-------|--------|---------|
| Max usage Temp. °C | 80 | 120† | 135 | 145 | 135 | 90 | 50 | 260 | 150 |
| Min usage Temp. °C | -50 | -100 | -20†† | -180 | -135 | -40 | -60 | -200 | -40 |
| Transparency | Translucent | Translucent | Translucent | Clear | Clear | Clear | Clear | Opaque | Opaque |
| Flexibility | Flexible | Rigid | Rigid | Rigid | Rigid | Rigid | Rigid | Rigid | Rigid |
| Specific Gravity | 0.92 | 0.95 | 0.9 | 0.83 | 1.2 | 1.05 | 1.2 | 2.2 | 1.31 |
| Microwaveable | Yes | No | Yes | Yes | Marginal | No | No | Yes | No |
| Autoclavable | No | No | Yes | Yes | Yes | No | No | Yes | Yes |
| Sterilisation | Gas | Yes | Yes | Yes | Yes | Yes | No | Yes | Yes |
| | Dry Heat | No | No | No | Yes | No | No | Yes | No |
| | Radiation (Gamma) | Yes | Yes | No | No | Yes | Yes | No | Yes |
| | Disinfection | Yes | Yes | Yes | Yes | Yes | Some | Some | Yes |
| Permeability* | N ₂ | 180 | 42 | 48 | 8,000 | 50 | 25 | 3 | Unknown |
| | O ₂ | 500 | 185 | 240 | 32,000 | 300 | 400 | 12 | 308 |
| | CO ₂ | 2,700 | 580 | 800 | 115,000 | 1,075 | 1,500 | 68 | Unknown |
| | Water Absorption (%) | <0.01 | <0.03 | <0.2 | 0.01 | 0.35 | 0.05 | 0.35 | <0.01 |
| Cytotoxic | No | No | No | No | No | No | No | No | Unknown |

* Permeability (cc-mm/m²-24hr.Bar).

† Polymer may be malleable at temperatures above 80°C if the product is under structural stress.

†† Material may become brittle at low temperatures.

Food Contact

Food Contact/Animal Derivative Statement

We can confirm that, with respect to the contact of plastic materials with foodstuffs, our products, where indicated in the catalogue, comply with one, or both, of the following:

European Regulations (EU) No 10/2011 up to (EU) No 2015/174 relating to plastic materials and articles intended to come into contact with foodstuffs.

Code of Federal Regulation (CRF), Title 21, Food and Drug Administration (FDA), Part 177.1520 "Olefin Polymers", (a) 2(i) and (c) 2.1 and 2.2.

We can confirm that in respect to Bovine Spongiform Encephalopathy (BSE) / Transmissible Spongiform Encephalopathy (TSE), that our suppliers do not use tallow derived from animal sources in the manufacture of our products.

Please contact us if you require further information. It is the responsibility of the user to ensure that the products are suitable for their intended use.

REACH

EU Regulation 1907/2006/EC including amendments

Regulation EC no. 1907/2006 of the European Parliament and of the council concerning the Registration, Evaluation, Authorisation and restriction of Chemicals (REACH) is continually being reviewed and updates implemented.

After consultation with the UK Health and Safety Executive (HSE) and Smithers REACH Services (SRS), we are deemed to be a 'Distributor of Articles' (Finished Products) for laboratory products.

Laboratory Plastics (Azlon®)

The laboratory plastics we supply are deemed as articles under REACH and therefore require no (Pre-) registration as there is 'no intended release of chemicals from these products'. Azlon products, to the best of our knowledge and that of our suppliers, do not contain SVHC's above thresholds of 0.1% on a weight/ weight basis.

Lipsol® Detergent

We are in constant communication with the manufacturers of Lipsol® to ensure that any relevant REACH (Pre) registration requirements are met. We confirm that Lipsol® does not contain any SVHCs above the threshold of 0.1% on a weight/weight basis and is compliant with REACH.

Recycling plastics

Although our products are designed for the reusable market you may wish to dispose of them at some point. Therefore here is some advice on recycling of our plastics.

Recycling involves the segregation of plastic products by specific resin types ready for the process of converting them into new raw materials for use in other products.

In order to assist with this segregation, the Society of the Plastics Industry (SPI) had adopted a classification system to identify the seven main types of plastic where each resin is assigned a number.

A large proportion of our products also have the following SPI code permanently moulded into them: -



The seventh classification, or "other" denotes that the product is either not of the preceding plastics or it is a mixture.

We do not currently supply any products made from PET.

Before recycling any items, please consider the environment and further handling. All items should be washed, cleaned and/or disinfected prior to disposal.

Care and maintenance of laboratory plasticware

The following guidelines are provided to ensure your plastic laboratory-ware is maintained in the best possible condition.

These guidelines are not definitive and care must be taken as each polymer has its own unique properties. Please also consult the chemical and physical properties charts in this catalogue. If you are still unsure please contact us for advice.

General Precautions

- Chemicals can adversely affect the performance of laboratory plasticware resulting in cracking, loss of strength and flexibility etc.
- If in any doubt, note the type of polymer the product is manufactured from, the chemical that is to be used, then confirm compatibility by checking against the chemical resistance chart. (See pages 6-7).

Washing and cleaning

- Most laboratory plasticware is readily cleaned in warm water with a detergent and soft cloth or sponge.
- Avoid using abrasive cleaners or scouring pads which can result in surfaces becoming scratched.
- A low or non-alkaline detergent is suitable for cleaning most plasticware.

Note however that polystyrene and polycarbonate products are susceptible to attack by alkalis and a neutral detergent is recommended.

- If using an automatic laboratory washing machine to wash plastic volumetric ware, such as measuring cylinders, employ a wash temperature below 60°C. High temperatures can affect volumetric accuracy.
- Ultrasonic baths may be used for cleaning plasticware. However do take care that the products do not directly touch the transducer membrane.

Heating

- Never place plasticware in direct contact with a flame or place onto a hotplate surface.
- Most plastics allow the transmission of microwaves. However, as with any microwave vessel, be sure it holds a microwave absorbing material, such as water, before placing in the oven.

Sterilisation

- If the plasticware is to be sterilised by autoclaving always pre-check that the polymer can withstand repeated exposure to temperatures of 121°C.
- Azlon® plastic products that are autoclavable are identified by an *A* symbol in this catalogue.
- When autoclaving bottles always ensure the caps are loosened or removed to prevent accidental collapse or deformation.

Disposal

- If the disposal of an item of plasticware is unavoidable, always follow local laws and regulations. Where reclamation facilities are offered it can be helpful to segregate the products by polymer type: many Azlon® products are marked with an SPI code to help identification.

Azlon®

AMBER POLYPROPYLENE STORAGE BOTTLES

Now meet US pharmacopoeia 39 requirements
for light transmission

Amber polypropylene storage bottles are designed to minimise UV light transmissions and to protect light-sensitive substances.

They now conform to USP 39 requirements so you can be sure that your light-sensitive substances are safe.





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Get in touch if you have any questions
and please remember...

We want to hear from you!!!

General email: azlon@scilabware.com
Product Manager email: haneen.al-azzawi@scilabware.com

SciLabware Limited

Unit 4, Riverside 2
Campbell Road
Stoke-on-Trent
Staffordshire
ST4 4RJ
United Kingdom
Tel: +44 (0)1782 444406
Fax: +44 (0)1782 940436

Registered in England and Wales No. 7723574
BS EN ISO 9001:2008 registered company



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