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Focus on Glassware & Plasticware

Your essential guide to everyday labware

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This application brochure is dedicated to providing you with a comprehensive overview of our extensive Fisherbrand portfolio of glassware and plasticware as well as highlighting supplementary products from the wider Fisherbrand family. It features beakers, bottles, cylinders, flasks, jars, funnels, microplates, pipettes, tubes, microscope slides and vials; in fact everyday essential items for all types of laboratories. It also contains useful product resources such as FAQ's and compatibility charts, making it a handy companion to keep by your side in the lab.

Frequently asked questions (FAQ's)

This brochure features some of the most frequently asked questions about our glassware and plasticware range as received by our Product Support Advisors, together with the answers they provided. However, if you are unable to find the answer to your question, are stuck and need help or are simply confused and unsure of which product best suits your research needs, the Product Support Team are here and ready to respond to your enquiries.

Contact our Product Support Advisors

Tel: +44 (0)1509 555888
Email: fisheruk.productsupport@thermofisher.com

Tel: +47 22 95 59 59
Email: psq.no@thermofisher.com

Tel: +32 (0)56 260 260
Email: be.fisher@thermofisher.com

Tel: +353 (0)1 885 5854
Email: fsie.sales@thermofisher.com

Tel: +45 70 27 99 20
Email: tsdk@thermofisher.com

Tel: +351 21 425 33 50
Email: pt.fisher@thermofisher.com

+358 (0)98027 6280
Email: fisher.fi.techsupport@thermofisher.com

Tel: +31 (0)20 487 70 00
Email: nl.info@thermofisher.com

Tel: +46 31 352 32 00
Email: tsse@thermofisher.com

Tel: +39 02 950 59 478
Email: it.fisher@thermofisher.com

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  - Cell biology
  - Core bioreagents

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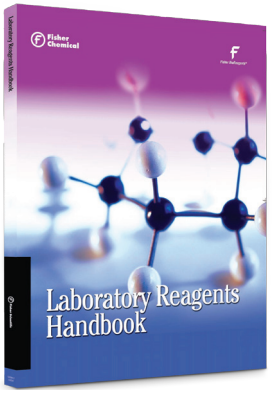

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GENERAL INTRODUCTION TO GLASSWARE

Glass is a mixture of silica (silicon dioxide), the primary constituent of sand, and other minerals that are melted together at very high temperatures (approximately 1,700°C) to form a material that is relatively inert, transparent, heat resistant, recyclable and easy to fabricate into a variety of shapes and forms. Therefore, in addition to its familiar applications around the home, in industry and in construction, the unique properties of glass also make it invaluable as a material for a wide range of laboratory apparatus and equipment.

The chemical composition of glass can be adjusted, or other materials added, to produce different physical properties or colours. An example would be amber coloured glass bottles and vials which are used for the storage and transport of light sensitive products, as they offer significant protection against bright and ultraviolet light.

Safety coated glass, which combines the chemical and heat resistance of glass with the addition of a tough plastic coating, is also available. Typically, glass bottles or other vessels are dipped in clear plastisol, a solution of PVC resin in a liquid plasticiser, that solidifies to form an exterior seal that is particularly effective in not only containing glass fragments and potentially hazardous bottle contents in case of breakage, but also contributes to general strength, impact, thermal shock and slip resistance.

Glass containers can also be pre-cleaned to various levels and to recognised specifications and standards. This is particularly important in any application involving sensitive sample collection and analysis, for example during environmental monitoring or during chemical or pharmaceutical testing, where results could easily be skewed by contaminants coming from the glassware.

The Fisherbrand range of laboratory glassware featured in this brochure includes beakers, bottles, burettes, cuvettes, cylinders, flasks, funnels, homogenisers, microscope slides and coverslips, pipettes, tubes and vials. All these products are manufactured to the highest standards and undergo rigorous quality assurance and testing procedures to ensure that they deliver on our promise of quality, reliability and value.

TYPES OF GLASS

This section will provide you with an overview of the three main types of Fisherbrand glassware; namely borosilicate, soda lime and quartz glass. If, however, you have any further questions concerning the best type of glass for your particular application, then please contact our Product Support Advisors.

Borosilicate glass

Borosilicate glass (or sodium borosilicate glass) is by far the most widely used, and preferred, glass for most laboratory apparatus. It is made mainly of silica (70 to 80%) and boric oxide (7 to 13%) with the addition of smaller amounts of the alkalis (sodium and potassium oxides) and aluminium oxide (refer to Table 1 below). It also has a unique set of physical properties (refer to Table 2).

Table 1: Typical Chemical Composition of Borosilicate Glass (% by weight)

Component	Percentage (approx.)
SiO_2	80.6%
B_2O_3	13.0%
$Na_2O + K_2O$	4.0%
Al_2O_3	2.3%
Miscellaneous traces	0.1%

Table 2: Physical Properties of Borosilicate Glass

Coefficient of expansion (20 to 300°C)	3.3 x 10^{-6}/°C
Density	2.23g/cm^3
Refractive index (Sodium D line)	1.474
Dielectric constant (1MHz, 20°C)	4.6
Specific heat (20°C)	750J/kg°C
Thermal conductivity (20°C)	1.14W/m°C
Poissons Ratio (25 to 400°C)	0.2

The main distinction between borosilicate glass from the older, more traditional 'soda lime' glass is the substitution of boric oxide for soda and for lime in the manufacturing process. Borosilicate glass must contain at least five percent boric oxide, which helps bind the silicate and aluminium oxide and sodium oxide. Higher temperatures are required during the manufacturing process of borosilicate glass compared to regular glass, making it more expensive to produce.

Its different composition means that borosilicate glass has a higher heat resistance and does not expand like ordinary glass; it has a smooth transition between temperatures and can even withstand temperature gradients across its surfaces. Tolerating both extreme heat and cold in this way makes borosilicate glass very popular for laboratory glassware.

These temperature characteristics are due primarily to its lower thermal expansion coefficient (refer to Table 2), which is responsible for its exceptional performance especially at high temperatures. Furthermore, due to its low coefficient of expansion, which is about one-third that of ordinary soda lime glass, it can be manufactured with thick and heavy walls for extra mechanical strength, without compromising its heat-resistant properties.

Although all glass is generally chemical resistant, borosilicate glass, due to its high percentage weight of silica (over 80%), offers exceptional acid resistance and is also capable of coping with, and containing extremely volatile chemicals.

Finally, borosilicate glass is far more durable than traditional glass, and can withstand accidents and other mishaps that would readily break other glassware. Even when it does crack, it rarely completely shatters, making it generally easier and safer to clean up.

All of these properties make borosilicate glass perfect for scientific laboratory use. Everything from tubes, bottles, beakers, test tubes, cylinders, flasks, pipettes, vials and funnels are produced from borosilicate, and are widely used across the chemical industry, in the pharmaceutical sector and in general or specialist research laboratories everywhere.

Soda lime glass

Soda lime glass (or soda lime silica glass) still accounts for the majority of industrially manufactured glass. It is typically composed of 74% silicon dioxide (SiO_2), 13% sodium oxide (Na_2O) and 7% calcium oxide, also called lime (CaO), with smaller amounts of other compounds (refer to Table 3 below).

Table 3: Typical Chemical Composition of Soda Lime Glass (% by weight)

Component	Percentage (approx.)
SiO_2	74%
Na_2O	13%
CaO	7%
MgO	4%
Al_2O_3	2%

Table 4: Physical Properties of Soda Lime Glass

Coefficient of expansion (20 to 300°C)	8.6 x 10^{-6}/°C
Density	2.52g/cm^3
Refractive index (Sodium D line)	1.515
Dielectric constant (1MHz, 20°C)	7.3
Specific heat (20°C)	750J/kg°C
Thermal conductivity (20°C)	0.96W/m°C
Poissons Ratio (25 to 400°C)	0.24

Soda lime glass is divided technically into two different types; flat glass, which is used for primarily construction purposes, such as windows, shelving etc., and container glass which is used for bottles, jars and other vessels. Container glass is similar in composition to flat glass except that it contains a lower proportion of magnesium oxide and sodium oxide. The lower content of these highly water-soluble ions reduces their leaching during long term storage of aqueous solutions, which may be an important requirement to be taken into consideration for the storage of particular liquids. These two types of soda lime glass also differ in their production method; float process for windows and blowing and pressing for containers.

In contrast to borosilicate glass, soda lime glass has a higher coefficient of thermal expansion (refer to Table 4). It will undergo sizeable expansion upon heating and contraction upon cooling meaning that it is much more sensitive to temperature fluctuations. As such soda lime glass is not used in the laboratory for applications involving severe changes in temperature.

Soda lime glass is relatively inexpensive, chemically stable, reasonably hard, and extremely workable. Because it is capable of being re-softened and re-melted numerous times, it is ideal for glass recycling. In addition soda lime glass has a smooth non-porous surface which allows bottles and jars to be easily cleaned.

Quartz glass

Quartz glass (or fused quartz) is comprised of just pure silica, and as such it does not contain the other ingredients which are typically added to the other forms of glass to lower the melt temperature. A number of unique optical, mechanical and thermal properties have made fused quartz an indispensable material in the fabrication of a disparate range of high-tech products from lenses and other optical components to cuvettes and crucibles.

Quartz glass has a very low thermal expansion coefficient, making it extremely thermal shock resistant (refer to Table 5). It is also chemically inert up to moderate temperatures (except to hydrofluoric acid, which dissolves silica) and has a very high viscosity which permits the glass to be formed, cooled and annealed without crystallising.

Table 5: Physical Properties of Quartz Glass

Coefficient of expansion (20 to 320°C)	5.5 x 10^{-7}/°C
Density	2.2g/cm^3
Refractive index (Sodium D line)	1.4585
Dielectric constant (1MHz, 20°C)	3.75
Specific heat (20°C)	670J/kg°C
Thermal conductivity (25°C)	1.4W/m°C
Poissons Ratio (25 to 400°C)	0.17

Fused quartz has high homogeneity and good transmission in the ultraviolet, visible and infrared spectral regions. Depending on transmission range, there are UV and IR fused quartz grades. The UV grade is sold under various tradenames such as HPFS, Spectrosil and Suprasil. It has a very low metallic impurity content making it useful for deep UV optical applications (0.18 to 2.0µm), although its infrared transmission is limited by strong water absorptions at 2.2µm and 2.7µm. IR grade is sold under tradenames including Infrasil and Vitreosil IR. It has a greater presence of metallic impurities, limiting its UV transmittance wavelength to around 250nm, but a much lower water content, leading to excellent infrared transmission up to 3.6µm wavelength. These transmission properties make fused quartz particularly suitable for the manufacture of spectrophotometric cuvettes and other sample holders.

GENERAL INTRODUCTION TO PLASTICWARE

The term 'plastic' is derived from the Greek root ''plastikos'' meaning fit for moulding. It acknowledges the material's malleability, or plasticity during manufacture, that allows it to be cast, pressed, or extruded into a variety of shapes. Due to their relatively low cost, ease of manufacture, versatility, and imperviousness to water, plastics are used in almost every application and industry.

Plastics are organic polymers, built from carbon-based monomers which may also incorporate other molecular components or functional groups containing oxygen, sulphur or nitrogen, all of which may dramatically alter the physico-chemical properties of the material overall.

Typically, plastics may also contain organic or inorganic additives which are blended in during the manufacturing process. Additives may include plasticisers, the largest group, which improve the plasticity or fluidity of the product; fillers, which are added to improve performance and/or reduce production costs, such as zinc oxide, chalk, wood flour, cellulose or starch; and dyes or pigments to colour the final product.

Plastics can be classified in several ways. We can classify them chemically based purely on their polymeric structure, such as the acrylics, polyesters, silicones, polyurethanes, and halogenated plastics. Alternatively, they can classified according to the chemical process used in their manufacture, for example, condensation, polyaddition or cross-linked, or else based on their thermal properties, i.e. thermoplastics, which soften on heating and then harden again on cooling, or thermosets, which never re-soften after their initial moulding. Plastics may also be categorised by other physical properties such as density, tensile strength, glass transition temperature, or resistance to various chemical products.

TYPES OF PLASTICS

This section will provide you with an overview of the principal types of Fisherbrand plasticware. If, however, you have any further questions concerning the best type of plastic for your particular application, then please contact our Product Support Advisors.

Polypropylene (PP)

- Translucent to transparent
- Fairly rigid
- Temperature range 0 to 135°C
- Autoclavable at 121°C
- Resistant to most chemicals except strong oxidisers
- Resistant to fatigue making it tough and durable
- Typically used for beakers, bottles, funnels and cylinders

Polyethylene (PE)

Available in both high and low density forms:

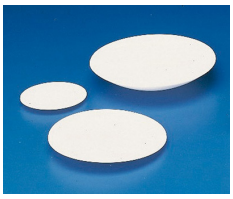
- High-density polyethylene (HDPE)
  - Transparent to opaque
  - Fairly rigid
  - Temperature range -100°C to 120°C
  - Not autoclavable at 121°C
  - Good to excellent chemical resistant
  - High tensile strength making it very tough
  - Typically used for bottles
- Low-density polyethylene (LDPE)
  - Translucent
  - Flexible
  - Temperature range -50°C to 80°C
  - Not autoclavable at 121°C
  - Resistant to most chemicals except strong oxidisers
  - Robust and virtually unbreakable
  - Typically used for wash bottles

Polyethylene terephthalate (PET, PETE)

- Transparent
- Rigid
- Temperature range -40°C to 150°C
- Not autoclavable at 121°C
- Good chemical resistance except to alkalis
- Very strong yet lightweight
- Typically used for bottles and face shields

Glycol-modified polyethylene terephthalate (PETG)

- Copolymer of PET (refer to above)



Polytetrafluoroethylene (PTFE)

- Opaque
- Semi-rigid
- Temperature range -200°C to 260°C
- Autoclavable at 121°C
- Excellent chemical resistance with almost all chemicals
- Low coefficient of friction
- Typically used for bottles, beakers and stirrers

Polystyrene (PS)

- Transparent
- Rigid, plastic
- Temperature range 0 to 70°C
- Not autoclavable at 121°C
- Moderate chemical resistance (excellent compatibility with weak acids, alcohol and bases)
- High strength and impact resistance
- Typically used for ice buckets and scoops
- Has a low density and a high clarity
- Typically used for beakers, graduated cylinders, petri dishes and microplates

• Polycarbonate (PC)

- Transparent
- Rigid
- Temperature range -135°C to 130°C
- Autoclavable at 121°C
- Moderate chemical resistance (excellent compatibility with weak acids)
- High strength
- Typically used for to make safety eyewear, face shields and cryogenic storage boxes

• Polymethyl methacrylate (acrylic, PMMA)

- Transparent (very clear)
- Rigid
- Temperature range -60°C to 70°C
- Not autoclavable at 121°C
- Moderate chemical resistance (resistant to inorganic acids and alkalis but not to organic solvents)
- Very tough and high clarity
- Typically used for bench top and safety shields as well as a variety of storage boxes

• Polymethylpentene (PMP or TPX)™

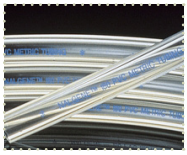
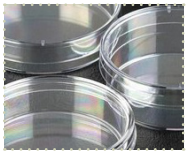
- Transparent
- Rigid
- Temperature range -180°C to 145°C
- Autoclavable at 121°C
- Highly resistant to chemicals
- Typically used for measuring cylinders and chromatography vials

• Polyvinyl chloride (PVC)

- Transparent
- Rigid
- Temperature range -25°C to 70°C
- Not autoclavable at 121ºC
- Moderate chemical resistance
- Rigid or flexible, coloured or clear
- Typically used for trays and troughs

The different types of plastics can be widely recycled into a variety of products. To aid with their segregation the Society of the Plastics Industry (SPI) has devised a classification system to identify the seven main types (refer to Table 6 below).

Table 6: Resin Identification Codes for the Main Types of Plastics

1 PET		Polyethylene Terephthalate sometimes absorbs odours and other traces from the contents that are stored in them. Items made from this plastic are **commonly recycled**.
2 HDPE		High-Density Polyethylene products are very safe and are not known to transmit any chemicals into their contents. HDPE products are **commonly recycled**. Items made from this plastic include containers for a wide variety of liquid products. It is NEVER safe to reuse an HDPE bottle as a food or drink container if it didn't originally contain food or drink.
3 V		Polyvinyl Chloride is **sometimes recycled**. This kind of plastic should not come in contact with food items as it can be harmful if ingested.
4 LDPE		Low-Density Polyethylene is **sometimes recycled**. It is a very versatile plastic that tends to be both durable and flexible.
5 PP		Polypropylene is **occasionally recycled**. PP is strong and can usually withstand higher temperatures. It is used to make a wide variety of containers and other vessels. Plastic bottle caps are often made from PP.
6 PS		Polystyrene is **commonly recycled**, but it is difficult to do so.
7 OTHER		Code 7 is used to designate miscellaneous types of plastic not defined by the other six codes. Polycarbonate and polylactide are included in this category. These types of plastics are **difficult to recycle**.

CHEMICAL COMPATIBILITY

The chemical compatibility chart below is for reference purposes only. Many factors affect the chemical resistance of labware products and we would kindly remind you that it is your responsibility to do a test under your own conditions to ensure that the product you are using is fully compatible.

How to Use This Chart

Use This Chart as a General Guide Only. Test each chemical before storing in labware. The first letter of each pair represents the resistance rating at 20°C; the second at 50°C.

E — No damage after 30 days of constant exposure.

G — Little or no damage after 30 days of constant exposure.

F — Some effect after 7 days of constant exposure. Depending on the material, the effect may be cracking, crazing, loss of strength or discolouration. Solvents may cause softening, swelling, and permeation losses with PP, PMP, LDPE and HDPE; the solvent effects on these materials are normally reversible.

N — Not recommended for continuous use. Immediate damage may occur. Depending on the material, the effect will be severe cracking, crazing, loss of strength, discolouration, deformation, dissolution or permeation loss.

Effects of Chemicals on Labware

Chemicals may affect the weight, strength, colour, dimensions, flexibility and surface appearance of labware. The basic models of interaction that cause these changes are:
(1) chemical attack on the polymer chain, with resultant reduction in physical properties, including oxidation; reaction of functional groups in or on the chain; and depolymerization;
(2) physical change, including absorption of solvents, resulting in softening and swelling of the plastic; permeation of solvent through the plastic; or dissolution in a solvent; and
(3) stress-cracking from the interaction of a "stress-cracking agent" with molded-in or external stresses.

The reactive combination of compounds of two or more classes may cause a synergistic or undesirable chemical effect. Other factors affecting chemical resistance include: temperature, pressure, internal or external stresses (such as centrifugation), and length of exposure to and concentration of the chemical. As temperature increases, resistance to attack decreases.

Warning!

Do not store strong oxidising agents in plastic containers except those made of FEP, PFA or PTFE. Other plastics will become brittle after prolonged exposure.

Table 7: Chemical Compatibility Chart

CHEMICAL	LDPE	HDPE	PP/PPCO	PMP	FEP/PTFE/PFA	ECTFE/ETFE	PC	PVC (Flexible)	PSF	PVDF	PS	NYL	Stainless Steel	Glass	Ceramic
Acetaldehyde	GN	GF	GN	GN	EE	GF	N	N	NN	EE	NN	EG	EE	EE	EE
Acetamide, sat.	EE	EE	EE	EE	EE	EE	NN	NN	NN	—	EE	EE	EE	EE	EE
Acetic acid, 5%	EE	EE	EE	EE	EE	EE	EG	G	EE	EE	EG	FN	EE	EE	EE
Acetic acid, 50%	GF	G	EE	EE	EE	EG	GF	FN	EE	EE	GG	NN	EE	EE	EE
Acetone	G	NN	NN	EE	EE	N	NN	NN	NN	NN	NN	EE	EE	EE	EE
Acetonitrile	EE	EE	FN	FN	EE	EE	NN	NN	NN	EE	NN	EE	EG	EE	EE
Acrylonitrile	EE	EE	FN	FN	EE	EG	NN	NN	NN	GF	NN	EG	EG	EE	EE
Adipic acid	EG	EE	EE	EE	EE	EE	EE	EG	GG	—	EE	EF	EG	EE	EE
Alanine	EE	EE	EE	EE	EE	EE	EE	EG	E	—	EE	EG	—	—	—
Allyl alcohol	EE	EE	EE	EG	EE	EE	G	N	GF	—	GF	NN	EE	EG	EG
Aluminum hydroxide	EG	EE	EG	EG	EE	EE	FN	EG	GG	EE	GG	EE	EE	NN	EE
Aluminum salts	EE	EE	EE	EE	EE	EE	EG	G	EE	EE	E	NN	GG	EE	EE
Amino acids	EE	EE	EE	EE	EE	EE	EE	G	EE	EE	EE	EG	—	—	—
Ammonia	EE	EE	EE	EE	EE	EE	NN	GF	GF	EE	EG	FF	EE	EE	EE
Ammonium acetate, sat.	EE	EE	EE	EE	EE	EE	GG	EE	EE	EE	EE	EG	EG	EE	EE
Ammonium glycolate	EG	EE	EG	EG	EE	EE	GF	GF	GG	EE	EE	GG	—	—	—
Ammonium hydroxide, 5%	EE	EE	EE	EE	EE	EE	FN	G	GG	EE	EF	GF	EE	EE	EE
Ammonium hydroxide, 30%	EG	EE	EG	EG	EE	EE	NN	GF	GG	EE	GF	FN	EE	EE	EE
Ammonium oxalate	EG	EE	EG	EG	EE	EE	EE	GN	EE	EE	EE	GF	EE	EE	EE
Ammonium salts	EE	EE	EE	EE	EE	EE	G	EG	EE	EE	GG	NN	EE	EE	EE
n-Amyl acetate	GF	EG	GF	GF	EE	EE	NN	NN	NN	EE	NN	EE	EE	EE	EG
Amyl chloride	NN	FN	NN	FF	EE	EE	NN	NN	NN	EE	NN	EG	EG	EE	EE
Aniline	EG	GF	GF	GF	EE	GN	NN	NN	NN	EF	NN	GF	EG	EE	EE
Benzaldehyde	EG	GN	EG	F	EE	EF	N	NN	FF	EE	NN	EG	GG	EE	EE
Benzene	N	NN	NN	N	EE	EG	NN	NN	NN	EE	NN	EE	GG	EE	EE
Benzoic acid, sat.	EE	EE	EG	EG	EE	EE	EG	EG	FF	EE	GG	NN	EG	EE	EE
Benzyl acetate	EG	EE	EG	EG	EE	EG	FN	NN	NN	—	NN	EG	GG	EE	EE
Benzyl alcohol	NN	FN	NN	GG	EE	EE	NN	FN	NN	EE	NN	NN	GG	EE	EE
Bromine	NN	FN	NN	NN	EE	EG	FN	N	NN	EE	NN	NN	EE	EG	GG
Bromobenzene	NN	N	NN	NN	EE	GN	NN	NN	NN	EE	NN	EG	GG	GG	GG
Bromoform	NN	NN	NN	NN	EE	GF	NN	NN	NN	EE	NN	FF	GG	EE	EE
Butadiene	NN	FN	NN	NN	EE	EE	NN	N	NN	EE	NN	FF	GG	EE	EE
n-Butyl acetate	GF	GF	FN	F	EE	EG	NN	NN	NN	EE	NN	EE	GG	EE	EE
n-Butyl alcohol	EE	EE	EE	EG	EE	EE	GF	GF	GF	EE	EG	NN	EE	EE	EE
sec-Butyl alcohol	EG	EE	EG	EG	EE	EE	GF	GG	GF	EE	GG	NN	EE	EE	EE
tert-Butyl alcohol	EG	EE	EG	EG	EE	EE	GF	FN	GF	GG	EE	NN	EE	EE	EE
Butyric acid	NN	FN	NN	NN	EE	EE	N	N	GG	EE	NN	FN	GG	EE	EE
Calcium hydroxide, conc.	EE	EE	EE	EE	EE	EE	NN	G	GG	EE	GG	NN	GG	NN	EE
Calcium hypochlorite, sat.	EE	EE	EE	EG	EE	EE	FN	FN	EE	EE	GF	NN	EE	EE	EE
Carbazole	EE	EE	EE	EE	EE	EE	NN	NN	NN	—	EE	EE	—	—	—
Carbon disulfide	NN	NN	NN	NN	EE	EF	NN	NN	NN	EE	NN	EG	EE	EE	EE
Carbon tetrachloride	FN	GF	GF	NN	EE	EE	NN	NN	NN	EE	NN	EE	GG	EE	EE
Cedarwood oil	NN	FN	NN	NN	EE	EG	GF	EG	FF	EE	F	EG	—	—	—
Cellosolve acetate	EG	EE	EG	EG	EE	EG	FN	N	NN	EG	NN	EE	GG	EE	EE
Chlorine, 10% in air	GN	EF	GN	GN	EE	EE	EG	G	NN	EE	NN	NN	FF	EE	EE
Chlorine, 10% (moist)	GN	GF	FN	N	EE	EE	GF	FN	NN	EE	NN	NN	FF	EE	EE
Chloroacetic acid	EE	EE	EG	EG	EE	EE	FN	FN	NN	E–	GN	NN	GG	EE	EE
p-Chloroacetophenone	EE	EE	EE	EE	EE	EE	G	NN	NN	—	NN	EG	—	—	—
Chloroform	FN	FN	NN	NN	EE	GF	NN	NN	NN	EE	NN	FF	EE	EE	EE
Chromic acid, 10%	EE	EE	EE	EE	EE	EE	GF	N	EG	EE	G	NN	GG	EE	EE
Chromic acid, 50%	EE	EE	GF	G	EE	EE	FN	GN	NN	EG	N	NN	FF	EE	NN
Cinnamon oil	NN	N	NN	NN	EE	EG	GF	NN	FF	—	NN	GF	EE	—	—
Citric acid, 10%	EE	EE	EE	EE	EE	EE	E	F	EE	EE	E	NN	GG	EE	EE
Cresol	NN	FN	GF	NN	EE	EG	NN	NN	NN	EE	NN	NN	EE	EE	EE
Cyclohexane	FN	FN	FN	NN	EE	EG	F	NN	NN	EE	NN	EE	EE	EE	EE
DeCalin	GF	EG	GF	FN	EE	EE	E-	NN	NN	—	NN	EE	—	—	—
o-Dichlorobenzene	FN	NN	FN	FN	EE	EF	NN	NN	NN	EE	NN	EG	GG	EE	EE
p-Dichlorobenzene	FN	NN	GF	GF	EE	EF	NN	NN	NN	EE	NN	EG	GG	EE	EE
Diethyl benzene	NN	FN	NN	NN	EE	EG	N	NN	NN	—	NN	EE	GG	EE	EE
Diethyl ether	NN	FN	NN	NN	EE	EG	NN	FN	NN	EG	NN	EE	GG	EE	EE
Diethyl ketone	NN	NN	GG	GF	EE	GF	NN	NN	NN	NN	NN	EE	GG	EE	EE
Diethyl malonate	EE	EE	EE	EG	EE	EE	FN	N	FF	EG	NN	EE	—	—	—
Diethylene glycol	EE	EE	EE	EE	EE	EE	GF	FN	GG	EE	E	EE	EE	EE	EE
Diethylene glycol ethyl ether	EE	EE	EE	EE	EE	EE	FN	FN	FF	—	NN	EE	EE	EE	EE
Dimethyl formamide	EE	EE	EE	EE	EE	GG	NN	N	NN	NN	NN	GF	EE	EE	EE
Dimethylsulfoxide	EE	EE	EE	EE	EE	EG	NN	NN	NN	—	EG	EE	EE	EE	EE
1,4-Dioxane	GF	GG	GF	FN	EE	EF	NN	NN	NN	NN	NN	EF	GG	EE	EE
Dipropylene glycol	EE	EE	EE	EE	EE	EE	GF	FN	GG	—	EE	EE	—	—	—
Ether	NN	FN	NN	F	EE	EG	NN	N	NN	EG	NN	EE	EE	EE	EE
Ethyl acetate	EE	EE	GF	FN	EE	EE	NN	NN	NN	NN	NN	EE	GG	EE	EE
Ethyl alcohol (absolute)	EG	EE	EG	EG	EE	EE	EG	FN	EG	EE	EG	NN	EE	EE	EE
Ethyl alcohol, 40%	EG	EE	E	EG	EE	EE	E	GF	EG	EE	EG	NN	EE	EE	EE
Ethyl benzene	N	FN	N	N	EE	GF	NN	NN	NN	—	NN	EE	GG	—	—
Ethyl benzoate	FF	GG	GF	GF	EE	EG	NN	NN	NN	NN	NN	EE	—	—	—
Ethyl butyrate	GN	GF	GN	FN	EE	EG	NN	NN	NN	NN	NN	EE	EG	—	—
Ethyl chloride, liquid	FN	NN	FN	FN	EE	EE	NN	NN	NN	EE	NN	GF	EE	EE	EE
Ethyl cyanoacetate	EE	EE	EE	EE	EE	EE	FN	N	FF	NN	GN	GF	—	—	—
Ethyl lactate	EE	EE	EE	EE	EE	EE	FN	N	FF	NN	FN	EG	—	—	—
Ethylene chloride	N	NN	NN	NN	EE	N	NN	NN	NN	EE	NN	EG	GG	EE	EE
Ethylene glycol	G	EE	EE	EE	EE	EE	EG	FN	EE	EE	EE	EE	GG	EE	EE
Ethylene glycol methyl ether	G	EE	GF	EE	EE	EE	N	FN	NN	—	NN	EE	—	—	—
Ethylene oxide	FF	GF	FF	FN	EE	EE	FN	G	EE	EE	NN	EE	GG	EE	EE
Fluorides	EE	EE	EE	EE	EE	EE	EE	GF	EE	EE	GG	EE	—	—	—
Fluorine	FN	GN	FN	FN	EG	EF	GF	FN	NN	—	NN	NN	EG	EE	—
Formaldehyde, 10%	EE	EE	EE	E	EE	EE	E	GF	EE	EE	GG	GF	EE	EE	EE

Table 7: Chemical Compatibility Chart - continued

CHEMICAL	LDPE	HDPE	PP/PPCO	PMP	FEP/PTFE/PFA	ECTFE/ETFE	PC	PVC (Flexible)	PSF	PVDF	PS	NYL	Stainless Steel	Glass	Ceramic
Formaldehyde, 40%	EG	G	EG	E	EE	EE	E	FN	GF	EE	GG	GF	EE	EE	EE
Formic acid, 3%	EG	G	EG	EG	EE	EE	EG	GF	GG	EE	EG	NN	GG	EE	EE
Formic acid, 50%	G	EE	EG	E	EE	EE	GF	GF	F	EE	G	NN	GG	EE	EE
Formic acid, 98 to 100%	G	EE	EG	E	EE	EE	FN	N	G	EE	G	NN	GG	EE	EE
Freon™ TF	EG	EG	EG	FN	EE	EG	N	NN	GF	EE	FN	—	EE	EE	EE
Fuel oil	FN	GF	EG	GF	EE	EE	EG	GF	EG	EE	F	EE	EE	EE	EE
Gasoline	N	GC	NN	GF	EE	EE	N	N	FF	EE	NN	EE	EE	EE	EE
Glacial acetic acid	GN	GC	EG	G	EE	EE	NN	NN	EE	EG	F	NN	EG	EE	EE
Glycerine	EE	EE	EE	EE	EE	EE	FG	EE	EE	EE	EE	EE	EE	EE	EE
n-Heptane	N	F	FF	FF	EE	EE	NF	NN	EG	EE	NN	EE	EE	EE	EE
Hexane	NN	GF	FN	FN	EE	EE	FN	N	EG	EE	NN	EE	EE	EE	EE
Hydrochloric acid, 1 to 5%	EE	EE	EE	E	EE	EE	EE	G	EE	EE	EE	NN	NN	EE	EE
Hydrochloric acid, 20%	EE	EE	EE	EG	EE	EE	GF	GF	EE	EE	EE	NN	NN	EE	EE
Hydrochloric acid, 35%	EE	EE	EG	EG	EE	EE	F	FN	EE	EE	EE	NN	NN	EE	EE
Hydrofluoric acid, 4%	EG	EE	E	E	EE	EE	G	GF	GF	EE	GF	NN	NN	NN	—
Hydrofluoric acid, 48%	EE	EE	G	G	EE	EE	F	FN	FN	EE	NN	NN	NN	NN	NN
Hydrogen peroxide, 3%	EE	EE	EE	EE	EE	EE	EE	G	EE	EE	EG	NN	GG	EE	EG
Hydrogen peroxide, 30%	EG	EE	EG	EG	EE	EE	EE	GN	EE	EE	EG	NN	GG	EE	EG
Hydrogen peroxide, 90%	N	EE	EG	EG	EE	EE	EE	NN	EE	E-	EG	NN	GG	EE	EG
Isobutyl alcohol	EE	EE	EE	EG	EE	EE	EG	GN	EG	EE	GG	NN	EE	EE	EE
Isopropyl acetate	GF	EG	GF	GF	EE	EG	NN	NN	NN	—	NN	EE	GG	EE	EE
Isopropyl alcohol	EE	EE	EE	G	EE	EE	EE	GN	GF	EE	EG	NN	GG	EE	EE
Isopropyl benzene	FN	FN	FN	NN	EE	EG	NN	NN	NN	—	NN	EG	—	—	—
Kerosene	FN	FN	NN	GF	EE	GF	—	NN	GF	EE	NN	EE	EE	EE	EE
Lactic acid, 3%	EG	EE	E	EG	EE	EE	E	EG	EE	EG	EE	NN	GG	EE	EE
Lactic acid, 85%	G	EE	EG	EG	EE	EG	EG	GF	EE	GF	EE	NN	GG	EE	EE
Methoxyethyl oleate	EG	EE	EG	EG	EE	EE	FN	NN	NN	—	NN	EG	—	—	—
Methyl alcohol	G	EE	EE	G	EE	EE	GF	FN	EG	EE	GF	NN	EE	EE	EE
Methyl ethyl ketone	NN	NN	EG	NN	EE	GF	NN	NN	NN	NN	NN	EE	EE	EE	EE
Methyl isobutyl ketone	NN	NN	GF	FF	EE	GF	NN	NN	NN	GN	NN	EE	GG	EE	EE
Methyl propyl ketone	NN	FN	GF	FF	EE	EG	NN	NN	NN	NN	NN	EE	EE	—	—
Methylene chloride	N	FN	FN	FN	EE	GG	NN	NN	NN	NN	NN	GF	GG	EE	EE
Mineral oil	GN	EE	EE	EG	EE	EE	E	E	EE	EE	EE	EE	EE	EE	EE
Nitric acid, 1 to 10%	EE	EE	EE	EE	EE	EE	EG	F	FN	EE	GN	NN	EE	EE	EE
Nitric acid, 50%	F	F	FN	F	EE	EE	GF	FN	FN	EG	GF	NN	EG	EG	NN
Nitric acid, 70%	FN	N	NN	FN	EE	EE	G	N	NN	GF	NN	NN	GG	EE	NN
Nitrobenzene	NN	N	NN	F	EE	EG	NN	NN	NN	EN	NN	FF	GG	EE	EE
n-Octane	EE	EE	EE	EE	EE	EE	GF	N	GF	EE	NN	EE	EE	EE	EE
Orange oil	FN	GF	GF	FF	EE	EE	FF	N	FF	EE	NN	GF	EE	EE	EE
Ozone	GN	GN	EG	EE	EE	EE	NN	GF	EE	EE	FF	EG	EG	—	—
Perchloric acid	GN	GN	GN	GN	GF	EG	NN	N	NN	EE	GF	NN	FF	EE	EE
Perchloroethylene	NN	NN	NN	NN	EE	EE	NN	NN	NN	EE	NN	EE	EG	EE	EE
Phenol, crystals	F	GF	GN	FG	EE	EE	NN	FN	FF	EE	NN	NN	GG	EE	EE
Phosphoric acid, 1 to 5%	EE	EE	EE	EE	EE	EE	G	EE	EE	EE	GG	NN	NN	EE	EE
Phosphoric acid, 85%	N	EE	EG	EG	EE	EE	EG	F	EE	EE	EG	NN	NN	EE	EE
Pine oil	GN	FN	EG	GF	EE	EG	GF	N	FF	EE	NN	GF	EE	—	—
Potassium hydroxide, 1%	EE	EE	EE	EE	EE	EE	FN	EE	EE	EE	GG	FF	EG	GF	GF
Potassium hydroxide, conc.	EE	EE	EE	EE	EE	EE	F	EG	EE	EG	GF	FF	EG	NN	NN
Propane gas	NN	EE	NN	NN	EE	EE	FN	FN	FF	EE	NN	FF	GF	NN	NN
Propylene glycol	EE	EE	EE	EE	EE	EE	GF	GN	GG	—	EE	EE	GG	EE	EE
Propylene oxide	EG	EE	EG	EG	EE	FN	GF	FN	GG	FN	NN	EE	EE	—	—
Resorcinol, sat.	EE	EE	EE	EE	EE	EE	GF	N	NN	—	GF	NN	—	—	—
Resorcinol, 5%	EE	EE	EE	EE	EE	EF	GF	N	NN	—	GF	NN	—	—	—
Salicylaldehyde	EG	EE	EG	EG	EE	EN	GF	N	FF	EG	NN	EG	—	—	—
Salicylic acid, powder	EE	EE	EE	E	EE	EE	EG	GF	EE	EE	EE	EG	GG	EE	EE
Salicylic acid, sat.	EE	EE	EE	EE	EE	EE	EG	GF	EE	EE	EG	NN	GG	EE	EE
Salt solutions, metallic	EE	EE	EE	EE	EE	EE	EE	EE	EE	EE	GG	FF	EG	—	—
Silver acetate	EE	EE	EE	EE	EE	EE	EG	N	EE	EE	GG	EF	—	—	—
Silver nitrate	EG	EE	EG	EE	EE	EE	EE	EG	EE	EE	GF	NN	GG	EE	EE
Sodium acetate, sat.	EE	EE	EE	EE	EE	EE	EG	N	EE	EE	EE	FF	GG	EE	EE
Sodium hydroxide, 1%	EE	EE	EE	EE	EE	EE	F	EE	EE	EE	GG	EE	GG	GE	GE
Sodium hydroxide, 50% to sat.	GG	EE	EE	EE	EE	EE	F	NN	EG	EG	G	GF	GF	NN	NN
Sodium hypochlorite, 15%	F	G	N	EE	EE	EE	GF	FN	EE	EE	G	NN	NN	EE	EG
Stearic acid, crystals	EE	GG	EE	EE	EE	EE	EG	EG	GG	EE	EG	EF	EG	EE	EE
Sulfuric acid, 1 to 6%	EE	EE	EE	EE	EE	EE	EE	EG	EE	EE	EG	NN	FN	EE	EG
Sulfuric acid, 20%	EE	EE	EG	E	EE	EE	EG	F	EE	EE	EG	NN	NN	EE	GG
Sulfuric acid, 60%	EG	G	GF	EG	EE	EE	GF	FN	EE	EE	EG	NN	NN	EE	NN
Sulfuric acid, 98%	GG	FN	FN	GF	EE	EE	NN	N	G	EG	NN	NN	NN	EE	NN
Sulfur dioxide, liq., 46 psi	NN	FN	NN	NN	EE	EG	GN	N	GG	EE	NN	NN	FN	NN	NN
Sulfur dioxide, wet or dry	EE	EE	EE	EE	EE	EE	EG	GN	GG	GE	FN	NN	FN	EE	EE
Sulfur salts	FN	GF	FN	FN	EE	EG	FN	G	GG	GF	NN	NN	—	—	—
Tartaric acid	EE	EE	EE	EE	EE	EE	EG	EG	EE	EE	E	EF	FF	EE	EE
Tetrahydrofuran	FN	FN	GF	FF	EE	GF	NN	NN	NN	FN	NN	EE	EE	EE	EE
Thionyl chloride	NN	NN	NN	NN	EE	EE	NN	NN	NN	—	NN	NN	NN	EE	EE
Toluene	FN	NN	NN	FF	EE	EE	NN	NN	NN	EE	NN	EE	EE	EE	EE
Tributyl citrate	GF	EG	GF	GF	EE	EG	NN	N	FF	EF	NN	EG	—	—	—
Trichloroethane	NN	N	NN	NN	EG	NN	NN	NN	NN	—	NN	EE	GG	EE	EE
Trichloroethylene	NN	N	NN	NN	EE	EG	NN	NN	NN	EE	NN	EE	GG	EE	EE
Triethylene glycol	EE	EE	EE	EE	EE	EE	EG	GF	EE	—	EG	EE	—	—	—
Tripropylene glycol	EE	EE	EE	EE	EE	EE	EG	FN	EE	—	EE	EE	—	—	—
Turpentine	FN	FN	FN	NN	EE	EE	FN	FN	NN	EE	NN	EE	EE	EE	EE
Undecyl alcohol	EF	EG	EG	EG	EE	EG	GF	GF	FF	EE	GG	EE	—	—	—
Urea	EE	EE	EE	EG	EE	EE	GF	GN	FF	EE	EG	EE	GG	EE	EE
Vinylidene chloride	NN	FN	NN	NN	EE	GF	NN	NN	NN	EE	NN	NN	GG	—	—
Xylene	N	FN	FN	FN	EE	EG	NN	NN	NN	EE	NN	EE	GG	EE	EE
Zinc stearate	EE	EE	EE	EE	EE	EE	EE	GN	EE	EE	EE	EE	EE	EE	EE

Warning!

The plastic resin information in these tables (does not include SS, glass or ceramic) has been provided by Thermo Scientific* Nalgene* and is reprinted with their permission. It should be used ONLY as a guide for selecting labware for testing.

Test the labware for 72 hours under expected or proposed conditions of use, BEFORE putting into service. Test with care to avoid injury or property damage.

Fisher Scientific does not warrant (neither express nor implied) that the information in these tables is accurate or complete.

CARE AND MAINTENANCE

All Fisherbrand labware is manufactured to the highest standards and undergoes rigorous quality assurance and testing procedures to ensure that it provides you with a quality, reliable and affordable piece of laboratory equipment. This section provides guidelines on how to care and maintain labware to obtain maximum life and performance. If however, you have any further questions about the care and maintenance of your labware, then please contact our Product Support Advisors.

Care and Maintenance of Glassware

Safe handling and storage

- Inspect the glassware for chips, cracks, and scratches on the inside and outside. Do not use glassware with visible signs of damage
- Dispose of broken or defective glassware safely. Place in a rigid puncture resistant container e.g. sharps container
- Wear appropriate protective clothing, e.g. lab coats, gloves. When handling hot or cold glassware, always wear insulated gloves
- Lift or carry beakers, bottles, and flasks by the sides and base rather than by the neck or rim. The rims of beakers or necks of bottles and flasks might break if used as lifting points
- To avoid breakage while clamping glassware, use coated clamps to prevent glass to metal contact, and do not use excessive force to tighten clamps
- Protect glassware from the dust by plugging with cotton, corking, taping a heavy piece of paper over the mouth or placing the glassware in a dust free cabinet
- Store glassware in specially designed racks. Avoid breakage by keeping pieces separately

Cleaning and drying

- Handle glassware carefully as most damage occurs during cleaning
- It is recommended that all glassware should be washed before it is first used to remove any residue or loose particles
- Glassware should be washed as soon as possible after use to avoid caking of residue. It is important not to let soiled glassware dry out. If immediate cleaning is not possible, the glassware should be put to soak in water. Use of a cleaning agent is recommended
- Glassware should not to be cleaned with harsh or abrasive cleaners. Use biodegradable, phosphate free detergent formulated for laboratory use
- Hard utensils, wire brushes or bottle brushes with wire cores, should not be used for cleaning. It is recommended that a sponge brush that is soft and flexible be used. Scratched glassware is prone to breakage during freezing or heating
- After washing, the glassware should be rinsed with tap water to remove any cleaning agent residue. After the tap water rinse, the glassware should be rinsed with distilled or deionized water
- When drying glassware, place articles on towels, lined basket, or slip-resistant pads. Be sure to place away from the edge of the bench. Large containers may be inverted on racks or pegboards to dry
- When cleaning pipettes, place pipettes, tips down, into a cylinder or tall jar of water or appropriate disinfectant (e.g. for biologically contaminated tips). A pad of cotton or glass wool at the bottom will help prevent breakage of the tips. Ensure the water or disinfectant level is high enough to immerse the pipettes

Heating and cooling

- Do not heat glassware that is etched, cracked, nicked or scratched. Such defects reduce the thermal strength, making the glassware more prone to breakage
- Do heat vessels gently and gradually to avoid breakage by thermal shock. Similarly, allow hot glassware to cool gradually and in a location away from cold draughts.
- If you are using a hotplate, ensure that the top plate is larger than the base of the vessel to be heated. Also, never put cold glassware onto a hotplate which is already well heated. Warm up gradually from ambient temperature
- Adjust bunsen burners to get a large soft flame. It will heat slowly and more uniformly and use a wire gauze with ceramic centre to diffuse the flame
- Glassware with thick walls (e.g. bottles and jars) should never be heated over a direct flame. Additionally, do not heat glassware directly on electrical heating elements
- When autoclaving glass containers ensure that caps are loosened. Autoclaving with tightly screwed caps can result in pressure differences and consequent breakage

Mixing and stirring

- Use a rubber policeman on glass or metal stirring rods, or use PTFE-tipped rods to prevent scratching the inside of the vessel
- When using a glass vessel with a magnetic stirrer always use a PTFE follower to prevent abrading the inside of the vessel
- When using glass or metal mechanical stirrer in a glass vessel always predetermine the height of the stirrer before use to ensure there is no contact between the stirrer blade and the bottom or sides of the vessel
- Do not mix sulphuric acid with water inside a glass measuring cylinder. The heat from the reaction can break the seal at the base of the cylinder

Volumetric glassware

- It is important to ensure that all volumetric glassware is kept scrupulously clean and grease free. Dirt and grease can distort the shape of the meniscus and also cause droplets of liquid to adhere to the vessel walls. Both seriously impact accuracy
- Volumetric glassware should be held in a vertical position when reading the meniscus. The meniscus should be at eye level to avoid parallax errors
- Never pipette by mouth. Always use a purpose designed pipette filler such as Cat. No's 15209805, 15239805, 15229805, 15219805 and 15249805

Cat. No 15209805 (red), 15239805 (green), 15229805 (blue)

Cat. No 15219805

Cat. No 15249805

- Do not expose volumetric glassware to direct heat e.g.hotplates, bunsen flame
- Autoclaving at 121°C and cleaning in automatic dishwashers is acceptable and will not affect the accuracy of borosilicate volumetric glassware
- Recalibrate volumetric glassware after extensive or demanding usage to ensure continued accuracy

Vacuum and pressure use

Because working conditions can vary enormously, Fisher Scientific cannot guarantee any glassware against breakage when used under vacuum or pressure. The application of positive pressures inside glass apparatus is particularly hazardous and should be avoided if at all possible. Safety precautions should always be taken to protect personnel and a number of these are listed below:

- Always wear safety glasses, goggles or a face shield
- Always use an adequate safety screen and/or protective cage
- Never use glassware that is scratched, cracked or chipped. It is more likely to break, especially under vacuum applications or if heated
- Avoid stress caused by over-tightening clamps. Support glassware gently where possible
- Never use flat bottomed vessels such as Erlenmeyer flasks and bottles under vacuum as they are likely to implode. Exceptions are vessels with specially thickened walls such as Büchner filter flasks and desiccators
- Never subject glassware to sudden pressure changes. Always apply and release pressure gradients and vacuums gradually

Care and Maintenance of Plasticware

Safe handling and storage

- Chemicals can adversely affect the performance of laboratory plasticware resulting in cracking, loss of strength and flexibility etc. For further information consult Table 7: Chemical Compatibility Chart, pages 14 to 15
- Dispose of broken or defective plasticware following local laws and regulations. The SPI code (refer to page 13) on the product will aid with segregation prior to recycling

Cleaning and drying

- 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 and weakened
- 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
- After cleaning, the products must be thoroughly rinsed with tap water to make sure no detergents remain. Then rinsed with distilled water and left to dry
- To prevent leakage, periodically disassemble and clean spigots and threads on bottles and closures, this will remove excess salts that build up
- 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 as long as 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

- Always pre check, prior to autoclaving, that the type of plastic can withstand repeated exposure to temperatures of 121°C (refer to Table 8 below, though please note that since there are many grades of plastics and processing methods the information should be treated as a general guide only)
- When autoclaving bottles always ensure the caps are loosened. Autoclaving with tightly screwed caps can result in collapse or deformation
- Throughout this brochure the following icon **A** is used to provide a quick guide as to whether the product can be autoclaved at 121°C for 20mins

Table 8: Sterilisation Properties of Plastics

Type of plastic	Autoclavable*	Gas sterilisation (Ethylene oxide)	Dry heat sterilisation	Gamma radiation sterilisation
PP	Yes	Yes	No	No
HDPE	No	Yes	No	Yes
LDPE	No	Yes	No	Yes
PET	No	Yes	No	Yes
PTFE	Yes	Yes	Yes	Yes
PS	No	Yes	No	Yes
PC	Yes***	Yes	No	Yes
PMMA	No	No	No	Yes
PMP or TPX™	Yes	Yes	Yes	No
PVC	Yes	**	**	**

*Autoclavable at 121°C for a period of 20mins
**depends on grade
*** Autoclaving PC reduces mechanical strength. Do not use PC vessels for vacuum applications if they have been autoclaved

GLASS OR PLASTIC?

Labware such as beakers, bottles, graduated cylinders, flasks and funnels are ubiquitous in every lab and an essential component of nearly all laboratory workflows. But which is best, glass labware or plastic labware? This section describes the main advantages and disadvantages of both as well as other factors you need to consider when making your selection.

The first (obvious) difference to highlight between glass and plastic is that glass is heavier by about seven times. Whilst this also means that glass is generally more durable and sturdy, this difference does carry an environmental impact in that it consumes more resource and energy to actually ship and transport it around than plastic.

Plasticware is less likely to break than glass; it is impact resistant and able to absorb the shock of daily bumps and knocks within the laboratory environment without breaking. Since glass is relatively more fragile, care does need to be taken during usage and it is also important that care is taken to use glass that is fit-for-purpose and which will withstand, for example, likely extremes of physico-chemical exposure.

As mentioned earlier, some plastics contain additives which are typically used to improve its performance. However, traces of these compounds can leach out of plastic bottles and other containers and potentially contaminate the contents. In contrast, glass is impermeable and nonporous, does not degrade, and is practically chemically inert, with minimal leachage and maximal protection within a sealed glass vessel from ingress or egress of gas or liquid.

Most glass and plastic is recyclable making them both environmentally friendly. Glass can be recycled indefinitely without loss of quality, and can be re-used to manufacture brand new products time after time. On the other hand, since plastic gradually loses its integrity, it can only be recycled into a limited number of new products later on in its life, and the process itself is often more challenging and expensive, for example, the removal of additives. In fact, the term 'downcycling' is often used when referring to the recycling of plastics into products of lesser quality and reduced functionality. To aid with the segregation of the different plastics types prior to converting them into new raw materials for use in other products, the Society of the Plastics Industry (SPI) has devised a classification system to identify the seven main types of plastics (refer to Table 6: Resin Identification Codes for the Main Types of Plastics).

Glass will not pit or scratch like plastic, so you don't have to worry about scratches creating havens for bacteria. It is very easy to scratch the surface of plasticware whilst cleaning and even microscopic scratches can harbour bacteria which can skew results. In addition, glass is generally easier to clean and sanitise.

Glassware is generally considered safe for autoclaving. On the other hand not all plastics are autoclavable (refer Table 8: Sterilisation Properties of Plastics, opposite).

Other glass or plastic selection factors may include:

- Container size and physical design e.g. narrow mouth vs. wide mouth, tall vs. short etc
- Colour. Is light sensitivity an issue? Is amber glass needed?
- Shelf life. How long are you planning to store a sample or product in the container?
- Method of fabrication. Moulded or tubing based?
- Processes the container will undergo. Storage conditions (freezing or heat); washing, sterilisation; method of sealing; humidity; hot or cold filling; de-pyrogenation
- Storage after filling. Time (shelf life needed); heat, cold, moisture; shipping conditions; light exposure
- Product composition. Dry powder; pH; concentration of ions; physico-chemical properties
- Closure type. Wide mouth vs. narrow mouth; septa lined open top cap; closed cap; liner material; sealing needed; threaded cap or crimp seal

TECHNICAL RESOURCES

Here to give you a helping hand!

Fisher Scientific's Product Support Team is your dedicated information resource. Our Product Support Advisors are all highly qualified professionals who are here to support and guide you to the fastest, most effective and efficient answer to your enquiry.

Areas of technical expertise include:

- Bioreagents and Life Science
- Chemicals and Chromatography
- Consumables
- Equipment
- Safety

This section lists some of the most frequently asked questions about our Fisherbrand glassware and plasticware range as received by our Specialists, together with the answers they provided. If you are unable to find the answer to your question, are stuck and need help or are simply confused and unsure of which product best suits your research needs, the Product Support Team are here and ready to respond to your enquiries.

Contact our Product Support Advisors

Tel: +44 (0)1509 555888
Email: fisheruk.productsupport@thermofisher.com

Tel: +47 22 95 59 59
Email: psq.no@thermofisher.com

Tel: +32 (0)56 260 260
Email: be.fisher@thermofisher.com

Tel: +353 (0)1 885 5854
Email: fsie.sales@thermofisher.com

Tel: +45 70 27 99 20
Email: tsdk@thermofisher.com

Tel: +351 21 425 33 50
Email: pt.fisher@thermofisher.com

+358 (0)98027 6280
Email: fisher.fi.techsupport@thermofisher.com

Tel: +31 (0)20 487 70 00
Email: nl.info@thermofisher.com

Tel: +46 31 352 32 00
Email: tsse@thermofisher.com

Tel: +39 02 950 59 478
Email: it.fisher@thermofisher.com

FAQ's – Glassware and Plasticware

Q. What are the main differences between borosilicate glass and soda lime glass?

A. The main distinction of borosilicate glass from soda lime glass is the substitution of boric oxide for soda and lime in the manufacturing process. It has a higher heat resistance and does not expand like soda lime glass, meaning that it is able to handle both extreme heat and cold, making borosilicate glass very popular for laboratory glassware.

Q. Can Fisherbrand glassware be autoclaved?

A. Glassware is generally considered safe for autoclaving. When autoclaving glass containers ensure that caps are loosened. Autoclaving with tightly screwed caps can result in pressure differences and consequent breakage.

Do not autoclave glassware that is etched, cracked, nicked or scratched. Such defects reduce the thermal strength, making the glassware more prone to breakage.

Q. Why are measuring flasks and beakers not classified as either Class A or Class B?

A. Whilst Erlenmeyer flasks and beakers are marked with approximate volume indication, there is still is a +/- 5% uncertainty about where their volume line actually belongs. There are only five volumetric measuring devices recognised as suitable for precise and accurate analytical work. These are volumetric flasks, measuring cylinders, burettes and volumetric pipettes and are classified into the two different grades, Class A and Class B.

Q. What are the differences between Class A and Class B volumetric glassware?

A. Laboratory volumetric glassware such as volumetric flasks, measuring cylinders, burettes and volumetric pipettes are produced and calibrated in accordance with American Society for Testing and Materials (ASTM) standards (ASTM predates other standard organisations such as BSI and DIN). They are available as two different grades, Class A or Class B. The ASTM standards define the tolerances within which the markings are placed on the glass. Class A is the most accurate as it has the smallest tolerances, with Class B in general, twice the acceptance range of Class A.

Q. What are the differences between Class AS and Class A?

A. Fisherbrand glass volumetric pipettes are Class AS, which has recently replaced Class A. Class AS is the European standard and shares the same high accuracies and tolerances to the relevant ISO and DIN standards as Class A. Class AS serological pipettes also have a faster dispensing speed than Class A pipettes (the S stands for the German word 'schnell' which translates as 'swift'). As a consequence of the increased dispensing speed a five second waiting time must be observed when filling or dispensing the required volume. This ensures that the meniscus has settled and maintains accuracy.

Q. Can I use ultrasonic cleaners to clean my glassware?

A. Ultrasonic cleaning is a good method of cleaning glassware thoroughly. Ultrasonic cleaners that use heaters are the best. Generally, using an ultrasonic cleaner with a mild detergent will clean most residues from glassware. When using equipment to clean glassware ensure that the glassware is secure and take extra care when loading and unloading as this is a common cause of chips and breakages.

Q. What is amber coated glassware used for?

A. Amber glass is used in laboratories for the protection of UV sensitive chemicals and materials. Amber glass blocks all UV radiation from 350 to 200nm. The UVC range used for micro-organism killing purposes, between 200 to 280nm is also blocked. However, not all UV radiation is blocked by the amber glass.

Q. What is the shelf-life of a glass bottle?

A. Glass containers do not have an expiration date or a limit to their shelf-life. However, it is important to regularly check your glassware for signs of damage which could lead to a compromise in safety or accuracy. If there are significant signs of damage it should be disposed of and replaced.

Q. What is the maximum temperature that I can heat my glassware?

A. Generally, glassware can withstand temperatures up to 500°C. However, once the temperature exceeds 150°C extra special care should be taken to ensure that heating and cooling is achieved in a slow and uniform manner.

If you are using a hotplate, ensure that the top plate is larger than the base of the vessel to be heated. Also, never put cold glassware onto a hotplate which is already well heated. Warm up gradually from ambient temperature.

If using a bunsen burner, adjust it to get large soft flame, this will heat the glass slowly and more uniformly. In addition, use a wire gauze with a ceramic centre to diffuse the flame.

Q. Do items of glassware such as burettes, volumetric flasks and pipettes need to be recalibrated after a certain length of time? If so, how frequently do they need to be calibrated?

A. There are no defined guidelines on when to have your glassware re-calibrated as it depends on how it is cleaned, handled and stored. Normally, volumetric glassware only needs re-calibrating after extensive or demanding usage, as this may have affected its original accuracy. For example recalibration should be considered if:

- The glassware is made from soda-lime glass and has been in use for over five years
- The glassware is made from borosilicate and has been in use for over ten years
- The glassware has been subjected to temperatures in excess 150°C
- The glassware is frequently used with strong acids or bases
- There are any signs of chemical corrosion e.g. frosting of internal glass surfaces

Q. How should I clean my volumetric glassware?

A. The best insurance for accurate volumes is to insure that your glassware is clean. For burettes and pipettes, cleanliness of the glassware is indicated by the absence of any 'water beads' on the inside surface of the glassware. When the item is clean, the solution will exist in a thin, unbroken film on the inside of the glassware.

Typically, a brief soaking in a warm detergent solution will be enough to clean pipettes and volumetric glassware. You should avoid soaking the glassware for too long, because if it is left for too long with the detergent solution a rough area is likely to develop at the glass/air interface, which may destroy the usefulness of the equipment. After a brief (2 to 3 mins) soaking, the glassware should be rinsed thoroughly with tap water, and finally 3 to 4 rinses with distilled or deionized water. Don't dry the glass surface with towels, just leave it protected from the dust. It is not necessary to dry the glass in the lab dryer, but if you have one - use it. Not only will it dry the glass faster, but it will also keep the glass protected from the dust during drying.

Q. Are Fisherbrand glass bottles pressure rated?

A. Fisherbrand bottles are not pressure rated and great care should be taken when using glassware for pressure applications. Fisher Scientific cannot guarantee any glassware against breakage when used under vacuum or pressure.

Q. Which plastics are autoclavable?

A. Only polypropylene, PTFE, PC and PMP (TPX) products can be autoclaved (autoclave cycle is defined as 121°C at 15psi (1bar) for 20 minutes). When autoclaving bottles always ensure the caps are loosened. Autoclaving with tightly screwed caps can result in collapse or deformation. Also do not subject plastic volumetric ware such as measuring cylinders, flasks etc to temperatures above 60°C as high temperatures can affect volumetric accuracy

All Fisherbrand plasticware that can be autoclaved is identified with the following icon 

Q. I am looking for large sample bottles which I can store in a freezer. What would you suggest?

A. Both LDPE and HDPE has a brittleness temperature of -100°C and so can be used when freezing samples too large for standard cryovials. Care should be takes to ensure that there is enough space left in the container for the sample to expand. Suggestions include Fisher Scientific Cat. No 11735383, 11775243 and 11957934. For the full range of available volumes and neck sizes please refer to www.eu.fishersci.com

Q. I am looking for a plastic storage bottle and it is important for me to clearly see the contents. What polymer would you suggest?

A. For applications where optical clarity is important, polymers such as polystyrene, PET, PMP or polycarbonate would be favourable. Other polymers such as polypropylene and polyethylene are translucent and in some cases opaque and are therefore not ideal for this requirement.

Q. What chemicals are compatible with laboratory plasticware?

A. For specific chemical compatibility with particular polymers, please refer to the 'Chemical Compatibility Chart' chart on pages 14 and 15.

Q. What type of detergent should I clean my plasticware with?

A. A low or non-alkaline detergent is suitable for cleaning most plasticware, such as Fisher Scientific Cat. No 12701875. Note however that polystyrene and polycarbonate products are susceptible to attack by alkalis and a neutral detergent is recommended such as Fisher Scientific Cat. No 11502773. It is also important to avoid using abrasive cleaners or scouring pads which can result in surfaces becoming scratched and weakened.

Q. What septa should I use?

A. The right choice of bottle or vial septa depends on the application. Almost all septa are laminated on one side with PTFE, which has a high chemical resistance and forms an inert barrier between sample and underlying carrier material. The carrier materials have different physical and chemical properties, such as temperature resistance, resealability properties, cleanliness, hardness, thickness, etc. The guide overleaf will help you to identify the best septa for your particular application.

Septa

Specific conditions involved in your particular application help dictate the selection of the best septa materials as exemplified below

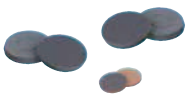
Multiple injection?	Temperature?			Thin, fragile needle?	Blunt, thick needle?	Critical analysis?	Low coring?
↓	↓			↓	↓	↓	↓
good resealability properties necessary	-40°C up to 120°C	-40°C up to 110°C	-60°C up to 200°C	soft and thin septa required	Slitted/pre-cut liner as penetration aid (HPLC)	very clean liner required	Both sided PTFE laminated liners required
↓	↓	↓	↓	↓	↓	↓	↓
Natural Rubber/TEF	**Natural Rubber/TEF; Butyl/PTFE**	**RedRubber/ PTFE**	**Silicone/ PTFE**	**e.g. Silicone/PTFE**	**e.g. 11841653**	UltraClean **Silicone/PTFE septa**	**PTFE/Silicone/PTFE PTFE/Butyl/PTFE**

In order to help you visualise the most common septum material combinations on the market, please see the images below. Please note, however, that their colours do not necessarily provide an indication of the actual liner material itself.

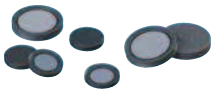
Natural Rubber/TEF

Red Rubber/PTFE beige

Butyl

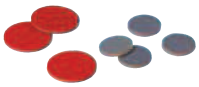


Butyl/PTFE

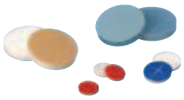


Pharma-Fix-Septa (Butyl/PTFE)

Silicone/Aluminium foil



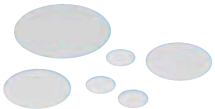
PTFE/Silicone/PTFE
PTFE/Butyl/PTFE



Silicone/PTFE

Pre-cut liners Silicone/PTFE

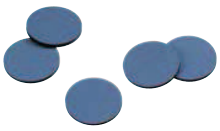
Viton



PTFE

Aluminium

Septa for Schott Screw Caps



PTFE/EPDM/PTFE

High Temperature Silicone/PTFE

Our product selection in this brochure focusses on everyday essential glassware and plasticware which are suitable for all types of laboratories. Look out for the Fisherbrand Spotlights which highlight additional Fisherbrand ranges, perfect to supplement your research needs. Once again Fisherbrand demonstrates that it's going that extra mile to continually deliver you quality, affordable products.

Guide to icons used throughout the following sections

A = autoclavable at 121°C for 20mins

S = sterile

N = new product

BAGS

The range of Fisherbrand bags includes: polyethylene bags which are perfect for use in the laboratory where samples need to be taken into a sterile environment; autoclavable polypropylene biohazard bags, ideal for handling and autoclaving of contaminated matter; and homogeniser bags which can be used for all types of Stomacher™ machines and other paddle blenders.

Bags, sample, polyethylene, sterile

S

Secure, contaminant free bags to ensure dependable analysis results

- Made from heavy gauge, virgin polyethylene that meets FDA specifications
- Can accommodate solid, semi-solid and liquid materials
- Easy to use, just insert sample and seal by twirling the bag away from you four times and bending wire ends inward
- Choice of round wire or flat wire closures (flat wire closures provide extra strength to seal larger and heavier samples)
- Available in a variety of sizes and with clear or printed write on labels

Cat. No	Capacity, mL	Pack qty
Clear, unlabelled with round wire closure		
11924385	120	500
11904395	540	500
11944395	720	500
11964405	810	500
11954405	1,260	500
With writing patch and round wire closure		
11944405	60	500
11954385	120	500
11974395	720	500
11914405	1,800	250
11738046	3,000	250
Clear, unlabelled, with flat wire closure		
13158167	720	500
11974405	1,260	500
11768026	1,650	250
With writing patch and flat wire closure		
11984395	540	500
11904405	720	500
11984385	1,650	250

Bags, sample, polyethylene, sterile, metal wire closure

S

For use in all laboratories where samples need to be collected into a sterile environment.

- Sterile transparent polyethylene bags without side seals in either plain or write-on style
- Convenient pull tabs to open bag without touching the edges
- Twirl round metal wire closure system with safety tabs to leakproof when sealed
- Ideal for use with solid, semi-solid or liquid samples
- Opening along width

Cat. No	Width, mm	Depth, mm	Capacity, mm	Thickness, µm	Inner pack qty	Pack qty
Plain style						
11512773	76	127	60	63	500	1,000
11522773	76	178	150	63	500	1,000
11532773	114	229	450	63	500	1,000
11542773	140	229	650	76	500	1,000
11552773	114	305	800	76	500	1,000
11562773	114	382	1,060	76	500	1,000
11572773	140	382	1,500	76	500	1,000
11582773	254	305	2,250	101	500	1,000
11592773	254	382	4,000	101	500	1,000
Write-on style, smudge proof writing surface						
11502783	76	127	60	63	500	1,000
11512783	76	178	120	63	500	1,000
11532783	114	229	540	63	500	1,000
11542783	140	229	650	76	500	1,000
11562783	254	305	2,250	101	500	1,000
11572783	254	382	4,000	101	500	1,000

Bags, biohazard, polypropylene, autoclavable, high temperature

Strong, pliable, leak and puncture resistant bags in clear polypropylene

- For high temperature sterilisation (134°C) to a maximum of 140°C:
  - All bags are 40µm thick.
  - The bags should be loosely tied at the top leaving a small hole prior to being autoclaved using autoclave indicator tape.
  - Opening along width.

Cat. No	Width, mm	Depth, mm	Pack qty
Printed polypropylene			
11600312	310	660	100
11553342	410	630	100
11563342	620	780	100

Cat. No	Width, mm	Depth, mm	Pack qty
Plain, polypropylene			
11573342	310	660	100
11583342	410	630	100
11593342	620	780	100

Bags, biohazard, autoclavable, roll packs

Standard temperature bags

- 40µm thickness
- With printed biohazard symbol
- Supplied on convenient rolls of 25 tear off bags per roll
- Suitable for temperatures of up to 134°C

Cat. No	Width, mm	Depth, mm	Capacity, L	No. of rolls
Standard temperature (121°C), HDPE bags, rolls of 25 bags				
11517762	250	400	3	40
11547762	400	780	21	16

Cat. No	Width, mm	Depth, mm	Capacity, L	Pack qty
High temperature (134°C) PP, bags in bulk packs				
11850482	400	780	21	500

Bags, homogeniser blender, polyethylene

Homogeniser bags for all types of Stomacher machines and other paddle blenders

- Sterile by irradiation with peel away sterilisation certificate
- Model 400 bags available in a range of different sleeve/pack sizes, with full or side filter, with 50mm white writing strip along one long edge
- 70µm thickness

Cat. No	Blender type	Style	Length, mm	Width, mm	Sleeve qty	Pack qty
11815390	Model 80	Plain	150	105	25	4,500
12682255	Model 400	Plain	300	180	25	2,500
11867313	Model 400	Full size filter	300	180	25	1,500
11857403	Model 400	Side filter	300	180	25	1,500
11770545	Model 3500	Plain	510	380	25	500
Accessory						
11522882	All	Clip for bags	-	-	200	200

FISHERBRAND
SPOTLIGHT

A perfect supplement to this range is the new Fisherbrand bag sealer. This is a useful addition for any lab for the secure sealing of specimen bags.

Bag sealer
Cat. No 15360360 (EU plug)
Cat. No 15350360 (UK plug)

Sample bags
pages 24 & 25

Permanent marker pens
Cat. No 11734386

For further information on the products featured visit www.eu.fishersci.com/go/fisherbrand

BEAKERS

Beakers are an essential product in all laboratories used for routine measurement, mixing and gentle heating of materials. The Fisherbrand range features sizes from 25mL up to 10L in a range of styles including squat form or low, tall form and tri-cornered. Other items include watch glasses or beaker covers, which can be used to prevent contamination.

Beakers, squat form

- Borosilicate glass
- Squat form with spout and graduations
- ISO 3819 DIN 12331

Cat. No	Capacity, mL	Height, mm	Exterior diameter, mm	Pack qty
15469073	25	50	34	10
15479073	50	60	42	10
15489073	100	70	50	10
15499073	150	80	60	10
15409083	250	95	70	10
15419083	400	110	80	10
15429083	600	125	90	10
15439083	800	135	100	10
15449083	1,000	143	105	10
15459083	2,000	185	130	1
15469083	3,000	210	150	1
15479083	5,000	270	170	1
15489083	10,000	350	217	1

Beakers, borosilicate glass, tall form

- Tall form with spout and graduations
- ISO 3819, DIN 12331

Cat. No	Capacity, mL	Pack qty
15499083	50	10
15409093	100	10
15419093	150	10
15429093	250	10
15439093	400	10
15449093	600	10
15459093	800	10
15469093	1,000	10
15479093	2,000	1
15489093	3,000	1

Beakers, borosilicate glass, squat form, heavy duty

- Heavy wall construction for increased mechanical strength
- Full 3.3 expansion borosilicate glass
- Reinforced rim with 'easy pour' pouring spout
- Graduated in white ceramic with marking area
- Uniform wall thickness for optimum optical clarity

Cat. No	Capacity, mL	Pack qty
15446123	150	10
15476123	250	10
15486123	400	10
15496123	600	10
15406133	1,000	10
15426133	2,000	4
15436133	4,000	1

Beakers, ultra clear polypropylene, squat form

- Large pouring spout and moulded graduations
- Not suitable for stirrer hotplates

Cat. No	Capacity, mL	Pack qty
11572283	25	10
11512293	500	10

Beakers, PTFE, squat form

- Non-contaminating and inert to highly corrosive reagents.
- Non-wettable, lightweight and heat resistant
- Can be heated on a hotplate up to 280°C
- Easy to clean
- Spout for easy pouring
- Isostatically moulded from pure PTFE

Cat. No	Capacity, mL	Pack qty
10733271	5	1
10166570	10	1
10288380	25	1
10628461	50	1
10792921	100	1
10248480	150	1
10713101	250	1
10349740	500	1
10044630	1,000	1
10762751	2,000	1
10237860	5,000	1

Beakers, polypropylene, tri-cornered

- Suitable for use with commonly used acids, alkalis and solvents
- Each beaker has three drip-free pouring spouts
- Moulded graduations, stackable

Cat. No	Capacity, mL	Subdivisions, mL	Height, mm	O.D., mm	Pack qty
11749398	50	5	57	49	100
11759398	100	10	72	58	100
11769398	250	10	90	76	100
11779398	400	20	108	85	100
11789398	800	50	133	107	100
11799398	1,000	50	145	115	100

Beakers, PTFE, Thermotech™

- Pure PTFE body with a specially formulated stablilising PTFE carbon base as a single moulding.
- Totally inert pure PTFE inner surface
- Heatable to 270°C
- Improved heat transfer

Cat. No	O.D., mm	Capacity, mL	Height, mm	Pack qty
10630034	56	100	74	1
10736934	75	250	94	1
10746934	85	400	112	1

Watch glasses/beaker covers, PTFE

- Inert, chemically resistant
- Smooth internal finish
- Exceptional thermal resistance: can be used down to -200°C and up to 280°C

Cat. No	O.D., mm	For beaketr, mL	Pack qty
10587092	50	50	1
10278000	60	100	1
10379880	75	150	1
10288000	80	250	1
10014680	100	500	1
10676921	125	1,000	1
10024680	150	2,000	1

FISHERBRAND SPOTLIGHT

Fisherbrand overhead digital stirrers are high performance stirrers that offer power, control, simplicity and versatility. The compact overhead stirrer is used for general purpose mixing, while the high torque model is able to meet the demands of heavy industrial use.

Overhead Stirrer
Cat. No 15203807

High torque overhead stirrer
Cat. No 15293797

For further information on the products featured visit www.eu.fishersci.com/go/fisherbrand

BOTTLES

All of the popular bottle styles are available within the Fisherbrand range, including Boston rounds, wide mouth rounds, straight sided bottles, media bottles, plastic coated bottles. Bottles are available in bulk packs, with or without caps attached and in clear or amber glass for light sensitive samples. Other items include jerrycans, wash bottles and sprayers.

Bottles, soda glass, Boston round (narrow mouth)

- Narrow mouth, ideal for solvents, chemicals and sample storage
- Available in clear and amber
- Containers and caps are available 'Custom cleaned' which are pre-cleaned for visible particulates using deionised water (no documentation supplied)
- Containers and caps are available 'certified low particulate' which are cleaned for low particulates. The tolerance at 0.5µm is five particles or less per mL with WFI in a class 100/10 cleanroom. A certificate of analysis is attached
- Bottles marked 'Safety coated' are ideal for field sampling applications. The shatter resistant coating reduces the chance of breakage. If the bottle does break, the coating will safely contain the contents long enough for disposal. The non-slip coating also allows greater stability in handling containers, whether wet or dry. All bottles are packed with caps attached.

Cat. No	Capacity, mL	Dia x H mm	Thread style	Mouth ID mm	Pack qty
For general use, with white polypropylene cap with PTFE faced foamed polyethylene liner, clear					
11728889	30	31 x 79	20/400	10.3	48
11738889	60	39 x 94	20/400	10.3	24
11748889	125	48 x 112	22/400	12.2	24
11758889	250	60 x 136	24/400	13.1	12
11768889	500	75 x 168	28/400	15.5	12
11778889	1,000	94 x 206	33/400	20.1	12
For general use, with black Poly-Seal™ lined cap, clear					
11708729	30	31 x 79	20/400	10.3	48
11718729	60	39 x 94	20/400	10.3	24
11728729	125	48 x 112	22/400	12.2	24
11738729	250	60 x 136	24/400	13.1	12
11748729	500	75 x 168	28/400	15.5	12
11758729	1,000	94 x 206	33/400	20.1	12
For general use, with white polypropylene cap polyvinyl liner, clear					
11788889	30	31 x 79	20/400	10.3	48
11798889	60	39 x 94	20/400	10.3	24
11744239	60	39 x 94	20/400	10.3	288
11768909	125	48 x 112	22/400	12.2	24
11754239	125	48 x 112	22/400	12.2	160
11778909	250	60 x 136	24/400	13.1	12
11764239	250	60 x 136	24/400	13.1	108
11788909	500	75 x 168	28/400	15.5	12
11583562	500	75 x 168	28/400	15.5	60
11798909	1,000	94 x 206	33/400	20.1	12
For general use, bottle only, clear					
11523582	30	31 x 79	20/400	10.3	432
11533582	60	39 x 94	20/400	10.3	288
11543582	125	48 x 112	22/400	12.2	160
11774239	250	60 x 136	24/400	13.1	108
11563582	500	75 x 168	28/400	15.5	60
11573582	1,000	94 x 206	33/400	20.1	12
Safety coated, with white polypropylene cap with PTFE faced foamed polyethylene liner, clear. Not autoclavable					
11768949	250	63 x 138	24/400	13.1	12
11788959	500	78 x 170	28/400	15.5	12
11798959	1,000	97 x 208	33/400	20.1	12
Safety coated, with black Poly-Seal™ lined cap, clear. Not autoclavable					
11583592	250	63 x 138	24/400	13.1	12
11593592	500	78 x 170	28/400	15.5	12
11503602	1,000	97 x 208	33/400	20.1	12
Safety coated, bottle only, clear					
11543602	250	63 x 138	24/400	13.1	108
11553602	500	78 x 170	28/400	15.5	60
11563602	1,000	97 x 208	33/400	20.1	30
Custom cleaned, with white polypropylene cap with PTFE faced foamed polyethylene liner, clear					
13137664	30	31 x 79	20/400	10.3	48
11764289	60	39 x 94	20/400	10.3	24
13164634	250	60 x 136	24/400	13.1	12
13157474	500	75 x 168	28/400	15.5	12
11774289	1,000	94 x 206	33/400	20.1	12
Certified low particulate, with white polypropylene cap polyvinyl liner, clear					
13187664	125	48 x 112	22/400	12.2	24
13178063	250	60 x 136	24/400	13.1	12
13171794	500	75 x 168	28/400	15.5	12
13151794	1,000	94 x 206	33/400	20.1	12

Bottles, soda glass, Boston round (narrow mouth) - continued

Cat. No	Capacity, mL	Dia x H mm	Thread style	Mouth ID mm	Pack qty
For general use with white polypropylene cap with PTFE faced foamed polyethylene liner, amber					
11708919	30	31 x 79	20/400	10.3	48
11718919	60	39 x 94	20/400	10.3	24
11728919	125	48 x 112	22/400	12.2	24
11738919	250	60 x 136	24/400	13.1	12
11748919	500	75 x 168	28/400	15.5	12
11758919	1,000	94 x 206	33/400	20.1	12
For general use with black with Poly-Seal™ lined, amber					
11503622	15	25 x 68	18/400	8.3	720
11768729	30	31 x 79	20/400	10.3	48
11778729	60	39 x 94	20/400	10.3	24
11714249	60	39 x 94	20/400	10.3	288
11788729	125	48 x 112	22/400	12.2	24
11553622	125	48 x 112	22/400	12.2	160
11728739	250	60 x 136	24/400	13.1	12
11573622	250	60 x 136	24/400	13.1	108
11738739	500	75 x 168	28/400	15.5	12
11593622	500	75 x 168	28/400	15.5	60
11748739	1,000	94 x 206	33/400	20.1	12
11724249	1,000	94 x 206	33/400	20.1	30
For general use with white polypropylene cap with polyvinyl liner, amber					
11794239	15	25 x 68	18/400	8.3	720
11758739	30	31 x 79	20/400	10.3	48
11768739	60	39 x 94	20/400	10.3	24
11704249	60	39 x 94	20/400	10.3	288
11778739	125	48 x 112	22/400	12.2	24
11533612	125	48 x 112	22/400	12.2	160
11788739	250	60 x 136	24/400	13.1	12
11553612	250	60 x 136	24/400	13.1	108
11798739	500	75 x 168	28/400	15.5	12
11573612	500	75 x 168	28/400	15.5	60
11708749	1,000	94 x 206	33/400	20.1	12
11593612	1,000	94 x 206	33/400	20.1	30
For general use, bottle only, amber					
11583632	15	25 x 68	18/400	8.3	720
11503642	60	39 x 94	20/400	10.3	288
11513642	125	48 x 112	22/400	12.2	160
11523642	250	60 x 136	24/400	13.1	108
11734249	500	75 x 168	28/400	15.5	60
11744249	1,000	94 x 206	33/400	20.1	30
Safety coated, with white polypropylene cap with PTFE faced foamed polyethylene liner, amber. Not autoclavable					
11708969	125	51 x 114	22/400	12.2	24
11718969	250	63 x 138	24/400	13.1	12
11738969	500	78 x 170	28/400	15.5	12
11728969	1,000	97 x 208	33/400	20.1	12
Safety coated, with Poly-Seal™ lined cap, amber. Not autoclavable					
11523652	125	51 x 114	22/400	12.2	24
11533652	250	63 x 138	24/400	13.1	12
11543652	500	78 x 170	28/400	15.5	12
11553652	1,000	97 x 208	33/400	20.1	12
Safety coated, bottle only, amber					
11503662	125	51 x 114	22/400	12.2	160
Certified cleaned, with white polypropylene cap with PTFE faced foamed polyethylene liner, amber					
11774299	250	60 x 136	24/400	13.1	12
13117474	1,000	96 x 217	33/430	17.9	12
Custom cleaned, with white polypropylene cap with PTFE faced foamed polyethylene liner, amber					
11744289	60	39 x 94	20/400	10.3	24
13137474	125	48 x 112	22/400	12.2	24
13168063	250	60 x 136	24/400	13.1	12
13127474	500	75 x 168	28/400	15.5	12
11754289	1,000	94 x 206	33/400	20.1	12

Bottles, soda glass, wide mouth packers

- Ideal for storage of dry powders
- Wide mouth bottles allow for easy accessibility for removal of contents
- Available in clear and amber
- Containers and caps which are 'custom cleaned' are cleaned of visible particulates using deionised water. This is non-certified (no documentation supplied)
- Containers which are 'certified clean' are cleaned as per EPA guidelines for semi-volatiles, pesticides, PCBs and metals. A certificate of analysis is attached to each lot
- Safety coated bottles are ideal for field sampling applications. The shatter resistant coating reduces the chance of breakage in the event the container is dropped. If the bottle does break, the coating will safely contain the contents long enough for disposal. The non-slip bottles are packed with caps attached

Cat. No	Capacity, mL	Dia x H mm	Thread style	Mouth ID mm	Pack qty
For general use with white polypropylene cap with PTFE faced foamed polyethylene liner, clear					
11718749	125	52 x 84	48/400	35.0	24
11704329	250	63 x 110	58/400	44.1	24
11714329	500	79 x 133	63/400	50.1	24
11734329	2,000	122 x 213	83/400	69.9	6
11553672	3,810	157 x 256	89/400	74.1	4
For general use with white polypropylene cap with polyvinyl liner, clear					
11744329	125	52 x 84	48/400	35.0	24
11754329	250	63 x 110	58/400	44.1	24
11764329	500	79 x 133	63/400	50.1	24
11784329	2,000	122 x 213	83/400	69.9	6
11593662	3,810	157 x 256	89/400	74.1	4
For general use, bottle only, clear					
11563672	125	52 x 84	48/400	35.0	24
11573672	250	63 x 110	58/400	44.1	24
11583672	500	79 x 133	63/400	50.1	24
11503682	2,000	122 x 213	83/400	69.9	6
11513682	3,810	157 x 256	89/400	74.1	4
For general use with white polypropylene cap with PTFE faced foamed polyethylene liner, amber					
11754249	30	37 x 65	28/400	15.5	24
11764249	60	44 x 75	33/400	20.1	24
11774249	125	54 x 95	38/400	25.1	24
11784249	250	66 x 119	45/400	31.8	24
11794249	500	80 x 146	53/400	40.1	12
11704259	1,000	99 x 178	53/400	40.1	12
11563702	1,250	106 x 190	70/400	57.2	6
11714259	2,500	140 x 239	70/400	54.9	12
For general use, with Poly-Seal™ lined cap, amber. Cap colour may vary					
11728749	30	37 x 65	28/400	15.5	24
11738749	60	44 x 75	33/400	20.1	24
11748749	125	54 x 95	38/400	25.1	24
For general use with white polypropylene cap with polyvinyl liner, amber					
11724259	6	24 x 44	20/400	11.9	720
11533682	8	25 x 52	20/400	10.3	912
11734259	15	31 x 50	28/400	15.5	624
11754319	30	37 x 65	28/400	15.5	24
11563682	30	37 x 65	28/400	15.5	432
11758749	60	44 x 75	33/400	20.1	24
11744259	60	44 x 75	33/400	20.1	216
11593682	15	54 x 95	38/400	25.1	24
11754259	125	54 x 95	38/400	25.1	180
11774319	250	66 x 119	45/400	31.8	24
11523692	250	66 x 119	45/400	31.8	84
11784319	500	80 x 146	53/400	40.1	12
11734319	500	80 x 146	53/400	40.1	60
11778849	1,000	99 x 178	53/400	40.1	12
11744319	1,000	99 x 178	53/400	40.1	36

Bottles, soda glass, wide mouth packers - continued

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Cat. No	Capacity, mL	Dia x H mm	Thread style	Mouth ID mm	Pack qty
For general use, bottle only, amber					
11583702	6	24 x 44	20/400	11.9	720
11503712	15	31 x 50	28/400	15.5	624
11513712	30	37 x 65	28/400	15.5	432
11523712	60	44 x 75	33/400	20.1	216
11533712	125	54 x 95	38/400	25.1	180
11543712	250	66 x 119	45/400	31.8	84
11553712	500	80 x 146	53/400	40.1	60
11563712	1,000	99 x 178	53/400	40.1	36
Safety coated, with white polypropylene cap with PTFE faced foamed polyethylene liner, amber. Not autoclavable					
11708809	250	69 x 121	45/400	31.8	24
11718809	500	83 x 148	53/400	40.1	12
11728809	1,000	102 x 180	53/400	40.1	12
Safety coated bottle only, amber. Not autoclavable					
11513732	250	69 x 121	45/400	31.8	24
11523732	500	83 x 148	53/400	40.1	12
11533732	1,000	102 x 180	53/400	40.1	12
Certified clean, with white polypropylene cap with PTFE faced foamed polyethylene liner, amber					
11734299	30	37 x 65	28/400	15.5	24
12548716	60	44 x 75	33/400	20.1	24
11744299	125	54 x 95	38/400	25.1	12
11754299	250	66 x 119	45/400	31.8	12
11764299	500	80 x 146	53/400	40.1	12
12558716	1,000	99 x 178	53/400	40.1	12
Custom cleaned, with white polypropylene cap with PTFE faced foamed polyethylene liner, amber					
11704289	60	44 x 75	33/400	20.1	24
11714289	125	54 x 95	38/400	25.1	24
11724289	250	66 x 119	45/400	31.8	24
11734289	500	80 x 146	53/400	40.1	12
13161794	1,000	99 x 178	53/400	40.1	12
For general use, with white polypropylene cap with PTFE faced foamed polyethylene liner, clear, graduated					
11718769	30	34 x 68	33/400	20.1	48
11728769	60	42 x 83	38/400	25.1	48
11738769	125	51 x 102	48/400	35.0	24
11744199	250	62 x 127	58/400	44.1	24
11748769	500	76 x 145	70/400	57.2	24
For general use, with Poly-Seal™ lined cap, clear, graduated					
11798759	30	34 x 68	33/400	20.1	48
11553742	30	42 x 83	33/400	25.1	432
11708769	60	42 x 83	38/400	25.1	48
11573742	60	42 x 83	38/400	25.1	288
For general use, bottle only, clear, graduated					
11533752	30	34 x 68	33/400	20.1	432
11543752	60	42 x 83	38/400	25.1	288
11553752	125	51 x 102	48/400	35.0	144
11563752	250	62 x 127	58/400	44.1	96
11573752	500	76 x 145	70/400	57.2	48
For general use with white polypropylene cap with polyvinyl liner, clear, graduated					
11768859	30	34 x 68	33/400	20.1	48
11553732	30	34 x 68	33/400	20.1	432
11778859	60	42 x 83	38/400	25.1	48
11573732	60	42 x 83	38/400	25.1	288
11788859	125	51 x 102	48/400	35.0	24
11593732	125	51 x 102	48/400	35.0	144
11798859	250	62 x 127	58/400	44.1	24
11513742	250	62 x 127	58/400	44.1	96
11708869	500	76 x 145	70/400	57.2	24
11794319	500	76 x 145	70/400	57.2	48
Certified low particulate, with white polypropylene cap with PTFE faced foamed polyethylene liner, clear, graduated					
13158063	125	51 x 102	48/400	35.0	24
13174364	500	76 x 145	70/400	57.2	24

Bottles, soda glass, straight sided

- Ideal for soil sampling and environmental applications.
- Straight sided walls allow for the complete removal of contents
- Bottles are autoclavable but the caps are not autoclavable
- Bottles are packed with PTFE lined caps ready-fitted
- Available certified cleaned per EPA guidelines for semi-volatiles, pesticides, PBCs and metals. A certificate of analysis is attached to each lot
- Safety coated bottles are ideal for field sampling applications. The shatter resistant coating reduces the chance of breakage in the event the container is dropped. If the bottle does break, the coating will safely contain the contents long enough for disposal. The non-slip coating also allows greater ease of stability in handling containers, whether wet or dry.

Cat. No	Capacity, mL	Dia x H mm	Thread style	Mouth ID mm	Pack qty
For general use with white polypropylene cap with PTFE faced foamed polyethylene liner, clear					
11714339	30	43 x 43	43/400	27.7	48
11724339	60	55 x 48	53/400	40.1	24
11734339	125	60 x 68	58/400	40.1	24
11778789	250	73 x 88	70/400	47.0	12
11744339	500	91 x 95	89/400	69.8	12
11754339	1,000	95 x 170	89/400	74.1	12
For general use with white polypropylene cap with polyvinyl liner, clear					
11764339	30	43 x 43	43/400	27.7	48
11774339	60	55 x 48	53/400	40.1	24
11784339	125	60 x 68	58/400	40.1	24
11794339	250	73 x 88	70/400	53.1	12
11704349	500	91 x 95	89/400	69.8	12
11714349	1,000	95 x 170	89/400	74.1	12
For general use, bottle only, clear					
11513792	30	43 x 43	43/400	27.7	384
11523792	60	55 x 48	53/400	40.1	144
11533792	125	60 x 68	58/400	40.1	24
11543792	250	73 x 88	70/400	53.1	12
11553792	500	91 x 95	89/400	69.8	12
11563792	1,000	95 x 170	89/400	74.1	12
Safety coated, with white polypropylene cap with PTFE faced foamed polyethylene liner, clear					
11553782	250	75 x 91	70/400	53.1	12
11563782	500	79 x 147	89/400	57.2	12
Safety coated, with white polypropylene cap with polyvinyl liner, clear					
11523782	250	2.95 x 3.58	70/400	53.1	12
11533782	500	3.11 x 5.79	89/400	57.2	12
11543782	1,000	3.82 x 9.02	89/400	57.2	12
Certified clean, with white polypropylene cap with PTFE faced foamed polyethylene liner, clear					
11784289	60	55 x 48	53/400	40.1	24
11794289	125	60 x 68	58/400	40.1	24
11704299	250	73 x 88	70/400	53.1	24
11714299	500	91 x 95	89/400	69.8	12
11724299	1,000	95 x 170	89/400	74.1	12
For general use with white polypropylene cap with PTFE faced foamed polyethylene liner, amber					
11583782	125	60 x 68	58/400	40.1	24
11734349	250	73 x 88	70/400	53.1	12
For general use, bottle only, amber					
11503792	125	60 x 68	58/400	40.1	24

Accessory caps and liners for Fisherbrand Boston round and wide packer bottles

A critical, yet often overlooked component when making your bottle selection is the composition of the bottle cap and especially the cap liner. The liner must not contaminate or be affected by the bottle contents and must be tough enough to be used repeatedly without loss of seal integrity. The guide below provides some further details that may help you in your choice of a suitable cap liner for your Fisherbrand Boston round and wide-mouth packer bottles.

Selecting a Cap Liner

Material	Description	Applications
PTFE-faced foamed polyethylene	PTFE faced foamed polyethylene liners offer the excellent chemical resistance of PTFE with the compressibility and sealing properties of polyethylene foam.	Typical applications: analytical lab samples, high purity chemicals, strong acids, solvents. Excellent for environmental samples, pharmaceuticals and diagnostic reagents.
Poly-Seal™ (polycone)	Manufactured from polyethylene (LDPE). The unique cone design provides a wedge type seal that not only seals across the top but also across the inside diameter	Unique problem solving type of liner. This liner is stress crack resistant and offers superior torque retention and excellent sealing characteristics. It is recommended that this liner be tested prior to use for leak seal.
Polyvinyl	1mm polyvinyl film bonded to 1mm HDPE on a #30 white pulp paper backing. Superior to plain pulp paper because it provides an excellent moisture barrier	General purpose: Suitable for wide range of applications. Chemical resistance: Good for mild acids, alkalis, solvents, alcohols, oils and aqueous products. Poor for active hydrocarbons and bleaches

Cap, polypropylene with PTFE faced polyethylene liner, white

- Typical applications include analytical laboratory samples, high purity chemicals, strong acids and solvents. Excellent for environmental samples, pharmaceuticals and diagnostic reagents
- PTFE faced foamed polyethylene liner that offers the excellent chemical resistance of PTFE with the compressibility and sealing properties of polyethylene foam
- For Fisherbrand Boston round and wide-mouth packer bottles

Cat. No	Thread style	Pack qty
11548182	18/400	500
11558182	20/400	500
11568182	22/400	500
11578182	24/400	500
11588182	28/400	500
11598182	28/400	3,000
11508192	33/400	500
11518192	33/400	2,100
11528192	38/400	500
11538192	43/400	500
11548192	45/400	500
11558192	48/400	500
11568192	53/400	500
11578192	58/400	500
11588192	63/400	288
11598192	70/400	144
11508202	83/400	144
11518202	89/400	144

Caps, Poly-Seal™ (polycone) lined plastic, black

- Unique problem-solving type of liner. This liner is stress crack resistant and offers superior torque retention and excellent sealing characeristics
- Manufactured from LDPE
- Unique cone design provides a wedge type seal that not only seals across the top but also across the inside diameter.
- However, it is recommended the liners be tested for leak seal prior to use
- For Fisherbrand Boston round and wide-mouth packer bottles

Cat. No	Thread style	Pack qty
11518172	18/400	576
11528172	20/400	576
11538172	20/400	5,500
11548172	22/400	576
11798699	24/400	576
11578172	24/400	4,200
11598172	28/400	3,100
11718709	33/400	576
11518182	33/400	2,300
11528182	38/400	576
11538182	38/400	1,600

Caps, polyvinyl lined plastic, white

- General purpose suitable for a wide range of applications
- Good chemical resistance suitable for mild acids, alkalis, solvents, alcohols, oils and aqueous products; poor for active hydrocarbons and bleaches
- 1mm polyvinyl film bonded to 1mm HDPE on a #30 white pulp paper backing
- Superior to plain pulp paper because it provides excellent moisture barrier
- For Fisherbrand Boston round and wide-mouth packer bottles

Cat. No	Thread style	Pack qty
11583792	18/400	576
11593792	20/400	576
11503802	22/400	576
11513802	24/400	576
11523802	28/400	576
11533802	28/400	3,000
11543802	33/400	576
11553802	33/400	2,100
11563802	38/400	576
11583802	43/400	576
11593802	43/400	1,760
11503812	45/400	576
11513812	45/400	1,520
11523812	48/400	576
11533812	53/400	288
11543812	53/400	1,080
11558162	58/400	288
11568162	63/400	288
11788699	70/400	288
11588162	70/400	640
11598162	83/400	144
11508172	89/400	144

Reagent and media bottles, borosilicate clear glass, wide screw neck

- Graduated and supplied with blue polypropylene cap and pouring ring
- ISO/GL 45 screw thread standard to all sizes, conforms to ISO R1115 and DIN 168
- Chemically resistant and can be repeatedly sterilised to 140°C
- Autoclavable, do not autoclave bottles with a tightly screwed cap

Cat. No	Capacity, mL	Height, mm (bottle only)	O.D., mm	Wall thickness, mm	Internal neck diameter, mm	Pack qty
15446113	100	100	56	1.5	27	10
15456113	250	138	70	1.5	27	10
15476113	500	176	86	1.5	27	10
15486113	1,000	225	101	1.7	27	10
15406123	2,000	260	136	2.0	27	1
15416123	5,000	330	181	2.0	27	1
15436123	10,000	410	227	2.7	27	1

Accessories

Polypropylene screw caps, with lip seal, autoclavable to 140°C

Cat. No	ISO thread GL	Colour	Pack qty
11527033	45	Blue	10
11537033	45	Green	10
11547033	45	Yellow	10

Polypropylene pouring rings, autoclavable to 140°C

11587033	45	Green	10
11597033	45	Yellow	10

Bottles, soda glass, lightweight, round, screw neck

- ISO range for liquids with fitted 28mm white polypropylene screw cap and PP/SOR liner.
- Type III soda lime glass

Cat. No	Capacity, mL	Height, mm	Diameter, mm	Thread style	Pack qty
Clear					
12890874	30	67	35	R3/28	40
12800884	60	94	38.6	R3/28	40
12810884	100	104.8	46.1	R3/28	20
12820884	150	122.8	51.6	R3/28	20
12840884	300	151.3	65.6	R3/28	20
12850884	500	176.8	76.8	R3/28	10
12860884	1,000	215.6	97.5	R3/28	10
Amber					
12337128	60	94	38.6	R3/28	40
12347128	100	104.8	46.1	R3/28	20
12810944	150	122.8	51.6	R3/28	20
12830944	500	176.8	76.8	R3/28	10
10595924	1,000	215.6	97.5	R3/28	10

Bottles, soda glass, lightweight, round, screw neck, tamper evident cap

- ISO range for liquids with fitted 28mm white polypropylene tamper evident vistop closure and polycone liner
- Type III soda lime glass

Cat. No	Capacity, mL	Thread style	Height, mm	Diameter, mm	Pack qty
Clear					
12880884	30	R3/28	67.0	35.0	40
12890884	60	R3/28	94.0	38.6	40
12800894	100	R3/28	104.8	46.1	20
12820894	150	R3/28	122.8	51.6	20
12830894	250	R3/28	142.9	61.7	20
12840894	300	R3/28	151.3	65.6	20
12850894	500	R3/28	176.8	76.8	10
12860894	1,000	R3/28	215.6	97.5	10
Amber					
12850944	15	R3/28	52.0	33.0	40
11367114	30	R3/28	67.0	35.0	40
11377114	60	R3/28	94.0	38.6	40
12880944	100	R3/28	104.8	46.1	20
12890944	150	R3/28	122.8	51.6	20
12800954	250	R3/28	142.9	61.7	20
12810954	500	R3/28	176.8	76.8	10
12820954	1,000	R3/28	215.6	97.5	10

Bottles, narrow mouth, HDPE

Cat. No	Capacity, mL	Dimensions, mm (dia. x h)	Pack qty
Clear			
11735383	30	38 x 84	72
11745383	60	48 x 99	72
11765383	250	61 x 132	72
11775383	500	71 x 171	48
11785383	1,000	91 x 213	24
Translucent			
11907974	125	48 x 99	500
11937964	250	61 x 132	250
11997954	500	71 x 171	125
11977924	1,000	91 x 213	50

Bottles, wide mouth, HDPE

Cat. No	Capacity, mL	Dimensions, mm (dia. x h)	Pack qty
Clear			
11775243	30	36 x 64	72
11785243	60	38 x 86	72
11795253	250	62 x 132	72
11775253	500	74 x 168	48
11745253	1,000	81 x 201	24
Translucent			
11917974	125	51 x 99	500
11947964	250	62 x 132	250
11907964	500	74 x 168	125
11987924	1,000	81 x 201	50

Bottles, narrow mouth, HDPE, amber

Cat. No	Capacity, mL	Dimensions, mm (dia. x h)	Pack qty
11937944	125	48 x 99	72
11947944	250	61 x 132	72
11947924	500	71 x 171	48
11927914	1,000	91 x 213	24

Bottles, wide mouth, HDPE, amber

Cat. No	Capacity, mL	Dimensions, mm (dia. x h)	Pack qty
11957944	60	36 x 64	72
11967944	125	38 x 86	72
11977944	250	62 x 132	72
11957924	500	74 x 168	48
11937914	1,000	81 x 201	24

Bottles, wide mouth, LDPE

Cat. No	Capacity, mL	Dimensions, mm (dia. x h)	Pack qty
11957934	30	36 x 64	72
11967934	60	38 x 86	72
11977934	125	51 x 99	72
11987934	250	62 x 132	72
11937924	500	74 x 168	48
11967904	1,000	81 x 201	24

Bottles, wide mouth, PP

Cat. No	Capacity, mL	Dimensions, mm (dia. x h)	Pack qty
11917934	30	36 x 64	72
11927934	60	38 x 86	72
11937934	125	51 x 99	72
11947934	250	62 x 132	72
11927924	500	74 x 168	48
11957904	1,000	81 x 201	24

Bottles, PETG, media

- Sterile and disposable media bottles for reducing the risk of cross contamination.
- An inexpensive and shatter resistant alternative to glass media bottles
- Non-pyrogenic and non-cytotoxic to protect cells
- Moulded in graduations
- Made from clear, lightweight, polyethylene terephthalate copolyester (PETG) providing impact resistance and excellent gas barrier properties
- Closure is high density polyethylene (HDPE)
- Heat-shrink band around cap and bottle neck provides visual assurance of sterility for individual bottles until band is removed

Cat. No	Capacity, mL	Pack qty
12074118	125	24
12084118	250	24
12064118	500	12
12094118	1,000	12

Bottles, HDPE, Winchester pattern, UN approved

- Tested and certified to meet UN standards for the safe transportation of hazardous materials
- Supplied with tamper evident polypropylene cap. 2.5L and 5L sizes have moulded in carrying/pouring handle

Cat. No	Capacity, mL	Neck size, mm	Height, mm	Width, mm	Pack qty
Clear					
10111751	2.5	45	295	130	4
10203181	5	45	330	170	1
Black					
10509741	2.5	45	295	130	4
10614382	5	45	330	170	1

Bottles, carboy, HDPE and PP

Fisherbrand carboys are ideal for storing and dispensing purified water and a wide variety of lab reagents

- Space saving rectangular design
- Wide mouth closure
- Available in 9L or 20L, with or without spigot
- Graduated in litres and gallons
- Material:
  - HDPE, able to withstand low temperatures
  - Polypropylene, autoclavable

Cat. No	Material	Capacity, L	Pack qty
13458029	HDPE without spigot	9	1
13478029	HDPE without spigot	20	1
13448029	PP without spigot	9	1
13468029	PP without spigot	20	1
13438039	HDPE with spigot	9	1
13408039	HDPE with spigot	20	1
13418039	PP with spigot	9	1
13428039	PP with spigot	20	1

Bottles, polyethylene, jerrycans, narrow neck

- Integrally moulded handle and tamper evident screw cap

Cat. No	Capacity, mL	Height, mm	Neck O.D., mm	Neck I.D., mm	Pack qty
11597433	1,000	165	38	125	1
11507443	2,500	205	45	150	1
11517443	5,000	282	38	189	1
11527443	10,000	314	61	230	1
11537443	25,000	470	61	295	1

Wash bottles, LDPE

- Labelled and colour coded for most commonly used solvents
- Translucent with coloured closure
- Comes with vented 38mm closure to prevent solvent drips
- 500mL capacity

Cat. No	Label	Closure colour	Pack qty
11755233	Bleach	White	6
11765233	Deionised water	Natural	6
11775233	Distilled water	Natural	6
11785233	Ethanol	Natural	6
11795233	Isopropanol	Yellow	6
11705243	Methanol	Green	6
11715243	Saline	Natural	6
11725243	Soap	Natural	6
11735243	Universal	Natural	6
11745243	Water Solvent	Natural	6
11765243	Cleaning	Natural	6
11745233	Acetone	Red	6

Bottles, LDPE, wash, safety labelled, wide neck, colour coded

- Solvent dispensing
- Leakproof dispensing of your most common solvents
- Easy to read LDPE solvent-resistant printed bottles
- Colour coded for easy identification

Cat. No	Capacity, mL	Label	Closure colour	Pack qty
11562463	500	Distilled Water	Blue	6
11572463	500	Water	Blue	6
11582463	1,000	Acetone	Red	6
11592463	500	Acetone	Red	6
11502473	500	Methanol	Green	6
11512473	500	Isopropanol	Yellow	6
11522473	500	Toluene	Red	6
11532473	500	Deionised water	Blue	6

Bottles, LDPE, wash, safety labelled, wide neck, Right-to-Know

- For dispensing water and common solvents.
- Labelled with chemical name and formula
- Full colour NFPA diamond
- Coloured caps for enhanced identification
- LDPE bottles with polypropylene caps
- Sodium hypochlorite bottles are white for light protection
- Selected solvents available in 500mL and 1L sizes

Cat. No	Label	Closure colour	Pack qty
500mL capacity			
12339185	Distilled water	Blue	6
12349185	Isopropanol	Yellow	4
12359185	Methanol	Green	4
12369185	Sodium hypochlorite (bleach)	Yellow	4
12379185	Water	Blue	3
1L capacity			
12389185	Isopropanol	Yellow	3
12399185	Methanol	Green	3
12309195	Sodium hypochlorite (bleach)	Yellow	3
500mL capacity, Safety-Vented™			
12379195	Isopropanol	Yellow	4
12389195	Methanol	Green	4
12399195	Sodium hypochlorite (bleach)	Yellow	4

Bottles, LDPE, wash, round, wide neck, venting, solvent labelled

- Labelled and colour coded for some of the most commonly used solvents
- Unique patented two piece venting assembly prevents build up of solvents within the bottle, eliminating solvent drips from the spout due to internal evaporation
- LDPE bottle with polypropylene closures and venting assembly

NB: Only use with solvents compatible with LDPE refer to Table 7 Chemical Compatibility Chart page 14 to 15

Cat. No	Capacity, mL	Label	Closure colour	Pack qty
11567153	500	Acetone	Red	3
11577153	500	Methanol	Green	3
11587153	500	Isopropanol	Yellow	3
11507163	500	DIY/custom	Natural	3

Bottles, LDPE, wash, wide neck, venting, labelled, Right-to-Know

- Pre-printed with chemical name and formula, NFPA section 704 four colour diamond, health hazard, CAS number and suggested protective clothing and equipment
- Wide neck for easy refilling
- Vented to prevent pressure build up, eliminating solvent drips
- Valve allows solvent to be dispensed in both an upright or inverted position
- Leakproof
- Translucent with colour coded polypropylene closures (except sodium hypochlorite bottle, which is white LDPE for light protection between 230nm to 450nm)

Cat. No	Capacity, mL	Label	Closure colour	Pack qty
12368616	500	Ethanol	Natural	3
12359195	500	Assorted pack	Assorted	6
12369195	500	Ethanol	Natural	6
12309205	500	Isopropanol	Yellow	6
12319205	500	Methanol	Green	6
11532463	250	Sodium hypochlorite (bleach)	Yellow	6
11542463	500	Distilled water	Natural	6
11938485	1,000	Acetone	Red	4

Wash bottle sprayer, Spray-Anywhere™

- Sprayer changes any bottle into a wash bottle, turns any reagent into a spray
- Chemical resistant and virtually unbreakable sprayer is made of polypropylene
- Ideal for hot, cold, aqueous, and solvent-based solutions
- The entire unit may be gas or chemically sterilised and is dishwasher-safe
- A cone-shaped universal adaptor bung fits virtually all glass, plastic, and metal containers, bottles, and flasks
- Fits inside diameters from 25.4mm to 35mm
- Tube diameter is 6.4mm
- Tube length is 813mm

Cat. No	Description	Pack qty
11724356	Spray-Anywhere™ adjustable sprayer	1

Wash bottles, adjustable spray

- For hot, cold, aqueous, and solvent based solutions
- Set to fine mist for TLC plates, position it to needle to rinse glassware, and pump a continuous, forceful jet on the big stream position for washing filters
- Instant off-trigger release eliminates messy drips
- Chemical-resistant and virtually unbreakable bottles are made of high-density polyethylene (HDPE), spray head made of polypropylene (PP)
- Can be gas or chemically sterilised and cleaned in the laboratory dishwasher
- Zero contamination
- The double headed 1,000mL sized bottle has a side fill opening to help maintain purity of solutions

Cat. No	Description	Pack qty
11795873	Double-headed adjustable spray wash bottle 1,000mL	1
11714356	Adjustable spray wash bottle 240mL	3

FISHERBRAND SPOTLIGHT

The new range of Fisherbrand digital bottle rollers features adjustable speeds (ranging from 1 to 80rpm) and adjustable rollers. In addition to this versatility, their anti-corrosive and wear resistant construction enables their use in humid and CO_2 environments.

Fisherbrand bottle top dispensers have excellent chemical compatibility and are ideal for use in a wide range of applications.

Bottle top dispensers, analogue, variable volume

Cat. No	Capacity, mL
12867913	0.25 - 2.5
12877913	0.5 - 5
12887913	1 - 10
12897913	2.5 - 30
12807923	5 - 60
12817923	10 - 100

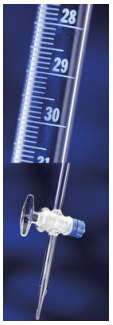
Bottle and tube roller
Cat. No 15376617

For further information on the products featured visit www.eu.fishersci.com/go/fisherbrand

BURETTES

Burettes are typically used in analytical laboratories for titrations; a quantitative chemical analysis which is used to determine the unknown concentration of an identified analyte (usually an acid or a base). Using this method a known quantity of substrate is measured into a flask, and the titrant is added slowly from the burette until the end point is reached and the volume is recorded. An indicator is often used to make the end point visible.
Burettes are manufactured to specified tolerances, designated as Class A or B. Class A burettes are used when an accuracy of up to 0.1% is required and in controlled environments. Class B burettes should be used when accuracy of 0.2% is sufficient in uncontrolled environments. The distinction between these two classes is based principally on the tolerance limits of the nominal volume of the glassware as specified in the relevant British Standards. Normally, for a given volume, the tolerance for Class B is twice that for Class A.

Burettes, borosilicate glass, single bore, interchangeable TFE stopcock, blue ceramic graduations, Class A, BS-ISO 385: 2005



Cat. No	Capacity, mL	Graduations, mL	Pack qty
10450893	25	0.10	1
10738081	50	0.10	1
Accessories			
Cat. No	**Description**		
12967730	Burette tip for Fisherbrand burettes borosilicate glass		5

Burettes, borosilicate glass, single bore, interchangeable stopcock, BS 846, blue ceramic graduations, Class B, BS-ISO 385: 2005

Cat. No	Capacity, mL	Graduations, mL	Pack qty
Glass stopcock			
10448972	50	0.10	1
PTFE stopcock			
10569771	50	0.10	1
Accessories			
Cat. No	**Description**		
12967730	Burette tip for Fisherbrand burettes borosilicate glass		5

FISHERBRAND SPOTLIGHT

Fisherbrand is there for all your titration accessories!

For further information on the products featured visit www.eu.fishersci.com/go/fisherbrand

Boss head
Cat. No 11537722

Rod
Cat. No 12358139

Clamp retort stand
Cat. No 11517722

Base retort stand
Cat. No 11528102

Measuring cylinders
page 67 to 69

Wash bottles
page 40 to 41

Beakers
page 27 to 29

CHROMATOGRAPHY AUTOSAMPLER VIALS AND CLOSURES

The Fisherbrand portfolio of chromatography vials and closures is extensive. They have been designed to provide you with the best fit for your application, sample type and autosampler mode.

Micro Vials ND8, crimp top and micro, 8mm

Fisherbrand™ clear and amber glass crimp top and microvials are suitable for use with the following autosamplers: Agilent, Beckman, Carlo Erba, CTC, Fisons, Perkin Elmer, Shimadzu, Thermo Scientific and VWR (Merck™)/Hitachi, etc.

Cat. No	Description	Capacity, mL	Dimensions, mm	Pack qty
Clear Glass				
11717567	Round bottom	0.3	5.5 x 31.5	1,000
11782408	Conical bottom	0.6	7 x 40	1,000
11722408	Conical bottom	0.2	5.5 x 31.5	1,000
11531374	Flat bottom	1.2	8.2 x 40	100
Amber glass				
11541374	Flat bottom	1.2	8.2 x 40	100

Clear aluminium crimp cap

- 8mm with a 4mm centre hole, with silicone white/PTFE red UltraClean seal
- Thickness of the seal 1.3mm

Cat. No	Thickness	Hardness	Pack qty
10385862	1.3	45° shore A	100

Vials, screw and micro, 8mm (small opening), 8-425 thread and microvials ND8

Fisherbrand™ screw top vials and microvials for use with the following autosamplers: Beckman, CTC, Gilson, Knauer, Shimadzu, Spark, Varian, VWR (Merck™)/Hitachi.

Cat. No	Description	Capacity, mL	Dimensions, mm	Pack qty
Clear Glass				
11565874	Vial, small opening	2.0	11.6 x 32	100
11525884	Vial, small opening, graduated with marking spot	2.0	11.6 x 32	100
11515884	Microvial, small opening	1.1	11.6 x 32	100
Amber Glass				
10560053	Small opening	2.0	11.6 x 32	100
11595874	Small opening, graduated with marking spot	2.0	11.6 x 32	100

Micro inserts, for 2mL screw vials (small opening)

Cat. No	Description	Capacity, mL	Dimensions, mm	Pack qty
11762428	Clear glass, 15mm top	0.1	5 x 31	1,000
11861653	Clear glass, 9mm top	0.1	5 x 31	1,000
11858951	Clear glass, with assembled plastic spring	0.1	5 x 29	1,000
11772428	Clear glass, flat bottom	0.2	5 x 31	1,000

To check compatibility with your autosampler go to the Product Resources section of the Fisherbrand website, www.eu.fishersci.com/go/fisherbrand, and select 'Compatibility Charts' from the drop down menu

Caps, screw, polypropylene, 8mm

Cat. No	Description	Thickness, mm	Hardness	Pack qty
Centre hole, 5.5mm diameter				
11561354	Cap ND8 screw polypropylene 8-425 thread black	-		100
11511404	With red rubber/PTFE beige seal	1.0	45° shore A	100
10204902	With PTFE red/silicone white/PTFE red seal	1.0	45° shore A	100
10671763	With rubber red-orange/TEF transparent seal	1.3	60° shore A	100
11591394	With butyl red/PTFE grey seal	1.3	55° shore A	100
11561384	With white silicone/red PTFE seal, UltraClean	1.3	45° shore A	100
11571394	With silicone white/PTFE red, with slit	1.3	45° shore A	100
11581384	With silicone cream/red PTFE UltraClean	1.5	55° shore A	100
Closed top				
11501404	With red butyl/grey PTFE seal	1.3	55° shore A	100
Septa 8mm				
11841653	White silicone/blue PTFE slitted seal	0.9	55° shore A	1,000
11872663	White cream silicone/red PTFE	1.3	45° shore A	1,000
2 in 1 kits for Varian autosampler				
10475792	2 in 1 kit consisting of Cat. No 11565874 (page 41) and 11561384	-	-	100

Vials, short thread, and microvials, 9mm (wide opening)

Due to their technical geometry, the vials can be used on all common autosamplers such as Agilent, HTA, Shimadzu, Thermo Scientific, Varian, Waters™, etc.

Cat. No	Description	Capacity, mL	Dimensions, mm	Pack qty
Clear glass				
10162512	Short thread vial	1.5	11.6 x 32	100
11585894	Short thread vial silanized	1.5	11.6 x 32	100
11575884	Vial, wide opening, graduated with white area for labelling	1.5	11.6 x 32	100
11575894	Short thread vial with integrated 0.2mL micro insert, graduated with white area for labelling	0.2	11.6 x 32	100
12951011	Short thread vial with integrated 0.3mL micro insert	0.3	11.6 x 32	100
11515894	Microlitre short thread	1.1	11.6 x 32	100
11535914	Microlitre vial	0.9	11.6 x 32	100
11575914	TopSert™ TPX short thread vial, with integrated 0.2mL glass micro insert	0.2	11.6 x 32	100
Amber glass				
10080952	Vial, wide opening, graduated with white area for labelling	1.5	11.6 x 32	100
11595894	Vial, wide opening, graduated with white area for labelling silanized	1.5	11.6 x 32	100
10145714	Vial with integrated 0.2mL micro insert with label and filling lines	0.2	11.6 x 32	100
Transparent polypropylene				
11565964	Micro vial	0.3	11.6 x 32	100
11585964	TPX micro vial, crystal clear	0.3	11.6 x 32	100
11545974	Micro vial	0.7	11.6 x 32	100
11505974	Vial with filling lines	1.5	11.6 x 32	100
Amber polypropylene				
10509482	Vial with filling lines	1.5	11.6 x 32	100

To check compatibility with your autosampler go to the Product Resources section of the Fisherbrand website, www.eu.fishersci.com/go/fisherbrand, and select 'Compatibility Charts' from the drop down menu

Microvial inserts, for crimp vials, 9mm (wide opening)

Cat. No	Description	Capacity, mL	Dimensions, mm	Pack qty
Clear Glass				
11752418	Micro-insert conical, 15mm top	0.1	6 x 31	1,000
11777557	Micro-insert conical, 12mm top	0.1	6 x 31	1,000
11805863	Micro-insert conical, with assembled plastic spring	0.1	5.7 x 29	1,000
11878951	Micro-insert conical silanised with assembled plastic spring	0.1	5.7 x 29	1,000
11762418	Micro-insert, flat bottom	0.2	6 x 31	1,000
Polypropylene				
13445489	Clear conical, 10mm top with filling lines	0.1	6 x 29	1,000

Caps, polypropylene, 9mm, for short thread vials, 6mm centre hole

Cat. No	Description	Thickness, mm	Hardness	Pack qty
Transparent cap				
11521424	With red-orange natural rubber/transparent TEF seal	1.0	60° shore A	100
10135044	With red rubber/beige PTFE seal (approved IM quality)	1.0	45° shore A	100
11541424	With white silicone/red PTFE seal	1.0	55° shore A	100
10192702	With red PTFE/white silicone/red PTFE seal	1.0	45° shore A	100
11591424	With silicone white/PTFE blue, with slit seal	1.0	55° shore A	100
Blue cap				
11541434	With virgin PTFE seal	0.2	53° shore A	100
10520443	With red-orange rubber/beige PTFE seal	1.0	60° shore A	100
11541454	With white silicone/red PTFE seal (approved IM quality)	1.0	45° shore A	100
11581424	With white silicone/red PTFE UltraClean seal	1.0	55° shore A	100
11511434	With red PTFE /white silicone/red PTFE seal	1.0	45° shore A	100
11797567	With white silicone/blue PTFE seal, with slit	1.0	55° shore A	1,000
10004604	With white silicone/blue PTFE seal, pre-cut	1.0	55° shore A	
10088322	With silicone white/red PTFE UltraClean Seal	1.0	55° shore A	100
10617625	With nat.rubber red-orange/TEF transparent seal	1.0	60° shore A	100
Red cap				
11571434	With white silicone/red PTFE UltraClean seal	1.0	55° shore A	100
11581434	With white silicone/blue PTFE seal, with slit	1.0	55° shore A	100
Black cap				
11501454	With silicone white/blue PTFE seal with slit	1.0	55° shore A	100
11581444	With silicone white/red PTFE UltraClean seal	1.0	55° shore A	100
Green cap				
11591434	With silicone white/red PTFE UltraClean seal	1.0	55° shore A	100
11521454	With silicone white/blue PTFE seal with slit	1.0	55° shore A	100
Yellow cap				
11541444	With silicone white/red PTFE UltraClean seal	1.0	55° shore A	100
Magnetic cap				
11571454	With silicone white/red PTFE UltraClean seal	1.0	55° shore A	100
UltraBond seals				
10264992	Black cap with silicone white/ red PTFE seal	1.3	45° shore A	100
10418092	Blue cap with silicone beige/ white seal PTFE	1.3	45° shore A	100
10122612	Blue cap with silicone beige/ white PTFE seal with slit	1.3	45° shore A	100

HPLC/GC certified vial kit short thread, 9mm, wide opening

- Each batch of HPLC and GC-certified kits is tested on 15 critical parameters
- These HPLC and GC certified kits are delivered completely shrink-wrapped for reasons of security, purity and transport safety, for total end-user confidence
- Each kit contains 100 vials and 100 caps with seals

Cat. No	Description	Capacity, mL	Dimensions	Hardness	Pack qty
Clear glass					
13429748	With labelling area and filling lines include UltraClean Seal blue centre hole, silicone white/PTFE red (1.0 mm thickness)	1.5	11.6 x 32	55° shore A	100
12990861	Vial pre-screwed with PP blue cap 6mm, centre hole silicone white/PTFE blue with slit (1.0mm thickness)	1.5	11.6 x 32	55° shore A	100
Amber glass					
13439748	With labelling area and filling lines include UltraClean Seal blue centre hole, silicone white/PTFE red (1.0 mm thickness)	1.5	11.6 x 32	55° shore A	100

Special kit 2-in-1 with short thread wide opening vials, 6mm centre hole cap and seal

- Each kit contains 100 vials and 100 seals

Cat. No	Description	Capacity, mL	Dimensions	Pack qty
Clear glass				
12970881	Kit: with labelling area and filling lines, with PP blue cap silicone white/PTFE blue (kit consists of 11575884 and 11521434)	1.5	11.6 x 32	100
11860972	Kit: with labelling area and filling lines, with 9mm UltraBond PP short thread cap, blue, centre hole, with silicone beige/PTFE white seal (kit consists of 11575884 and 10122612)	1.5	11.6 x 32	100
11787497	Kit: with PP short thread cap blue, 6mm centre hole with silicone white/PTFE red seal	1.5	11.6 x 32	
15124649	Kit: wide opening with PP short thread cap blue, 6mm centre hole with silicone white/PTFE blue seal with slit	1.5	11.6 x 32	100
12951251	Kit: with PP short thread cap transparent, 6mm centre hole UltraClean silicone white/PTFE red seal	1.5	11.6 x 32	100
12950891	Kit: with 9mm UltraBond PP short thread cap, blue, centre hole silicone beige/PTFE white seal with slit	1.5	11.6 x 32	100
Amber glass				
11395991	Kit: with labelling area and filling lines, with transparent PP cap UltraClean silicone white/PTFE red seal (kit consists of 10080952 and 11541424)	1.5	11.6 x 32	100
12570186	Kit: with labelling area and filling lines, with 9mm UltraBond PP short thread cap, blue, centre hole, with silicone beige/PTFE white seal (kit consists of 10080952 and 10122612)	1.5	11.6 x 32	100

Vials, screw, 2mL, 10mm (wide opening) ND10

Fisherbrand™ 10-425 screw top vials are ideal for use with the following autosamplers: Jasco, Perkin Elmer, Shimadzu, Varian, Waters™.

Cat. No	Description	Capacity, mL	Dimensions, mm	Pack qty
Clear glass				
11511474	Wide opening	1.5	11.6 x 32	100
10521593	Wide opening, graduated with marking spot and filling lines	1.5	11.6 x 32	100
Amber glass				
11531474	Wide opening, graduated with marking spot and filling lines	1.5	11.6 x 32	100

Caps, screw, black, polypropylene, 10mm, with 7mm centre hole

Cat. No	Description	Thickness, mm	Hardness	Pack qty
11561474	With white silicone/red PTFE UltraClean seal	1.3	45° shore A	100
11581474	With white silicone/blue PTFE seal, with slit	1.5	55° shore A	100
10051132	With white silicone/beige PTFE seal	1.5	45° shore A	1,000

Vials, crimp top and micro-insert, 11mm (wide opening) ND11

Fisherbrand amber and clear glass crimp top and micro vials, suitable for use with the following autosamplers: Agilent, Carlo Erba, CTC, Dani, Fisons, Gerstel, Jasco, Perkin Elmer, Shimadzu, Spark, Thermo Scientific and Varian.

Cat. No	Description	Capacity, mL	Dimensions, mm	Pack qty
Clear glass				
10326042	Crimp vial, wide opening	1.5	11.6 x 32	100
11535884	Wide opening, graduated with marking spot	1.5	11.6 x 32	100
11565894	Crimp vial with integrated 0.2mL micro insert, graduated with marking spot	0.2	11.6 x 32	100
12672465	Snap/crimp vial with integrated micro insert	0.3	11.6 x 32	100
11505894	Microvial	1.1	11.6 x 32	100
11505884	Microvial, conical bottom	1.1	11.6 x 32	100
11545914	Total microlitre snap/crimp ring vial	0.3	11.6 x 32	100
11865813	Microvial, conical bottom	0.9	10 x 32	1,000
11585914	TopSert™ TPX snap ring vial with integrated 0.2mL micro insert	0.2	11.6 x 32	100
11505924	TopSert™ TPX snap ring vial with integrated 0.2mL micro insert Silanized	0.2	11.6 x 32	100
Amber glass				
11545884	Amber glass, wide opening, graduated with marking spot	1.5	11.6 x 32	100
10678005	Crimp neck vial with integrated 0.2mL micro insert with label and filling lines	0.2	11.6 x 32	100

To check compatibility with your autosampler go to the Product Resources section of the Fisherbrand website, www.eu.fishersci.com/go/fisherbrand, and select 'Compatibility Charts' from the drop down menu

Vials, crimp top, 11mm (small opening)

Cat. No	Description	Capacity, mL	Dimensions, mm	Pack qty
Clear glass				
10081022	Crimp vial clear glass	1.5	11.6 x 32	100

Caps, crimp, aluminium, 11mm with 5.5mm centre hole

Cat. No	Description	Thickness, mm	Hardness	Pack qty
Clear aluminium cap lacquered				
10457692	Clear cap with nat. red-orange/TEF rubber transparent Seal	1.0	60° shore A	100
11595864	With red rubber/PTFE seal	1.0	45° shore A	100
11551494	With red PTFE/white silicone/red PTFE seal	1.0	45° shore A	100
11545864	With red-orange natural rubber/transparent TEF seal	1.3	60° shore A	100
10264612	With silicone white/PTFE red UltraClean seal	1.3	45° shore A	100
10274802	With silicone white/PTFE blue seal, cross-slitted	1.5	55° shore A	100
Blue aluminium cap lacquered				
11515864	With silicone white/red PTFE UltraClean	1.3	45° shore A	100
11894870	With nat. rubber red-orange/butyl red/TEF transparent	1.0	45° shore A	1,000
10204712	With nat.red-orange Rubber/ butyl red/ TEF transparent	1.0	45° shore A	1,000
10162562	Roll grove, with PTFE virginal septa	0.25	53° shore A	1,000
11585864	With PTFE grey/butyl red/PTFE grey seal	1.3	55° shore A	1,000
Green aluminium cap lacquered				
11591494	With nat. rubber red-orange/butyl red/TEF transparent	1.0	45° shore A	100
Red aluminium cap lacquered				
11501504	With nat. rubber red-orange/butyl red/TEF transparent	1.0	45° shore A	100
Gold aluminium cap lacquered				
11521504	With nat. rubber red-orange/butyl red/TEF transparent	1.0	45° shore A	100

Magnetic cap, crimp, magnetic, 11mm, 5mm centre hole

- For CTC Pal+Thermo Scientific TriPlus autosampler

Cat. No	Description	Thickness, mm	Hardness	Pack qty
11531504	With white silicone/red PTFE seal	1.3	45° shore A	100
11541504	With red PTFE/white silicone/red PTFE seal	1.0	45° shore A	100

Vials, snap ring, 11mm (wide opening)

Clear and amber glass Fisherbrand™ snap ring and microvials are suitable for use with the following autosamplers: Agilent, CTC, Dani, Dionex, Jasco, Shimadzu, Spark, Thermo Scientific, Varian, VWR (Merck™)/Hitachi, Waters™.

Cat. No	Description	Capacity, mL	Dimensions, mm	Pack qty
Clear Glass				
11525894	Clear glass, wide opening	1.5	11.6 x 32	100
11535894	Clear glass, wide opening, graduated with marking spot	1.5	11.6 x 32	100
Clear PP/TPX				
11575964	PP transparent micro vial	0.3	11.6 x 32	100
11595964	TPX crystal micro vial	0.3	11.6 x 32	100
10705203	PP transparent micro vial	0.7	11.6 x 32	100
Amber glass				
11545894	Amber glass, wide opening, graduated with marking spot	1.5	11.6 x 32	100

Seals, snap ring, polyethylene, 11mm with 6mm centre hole

- Soft caps are more convenient in handling (pushing on/removal), however, they are less tight-fitting than hard caps
- Snap ring cap with the design of a crimp cap; therefore suitable for robotic handling

Cat. No	Description	Thickness, mm	Hardness	Pack qty
Transparent cap, soft cap version				
10516655	With red-orange natural rubber/transparent TEF seal	1.0	60° shore A	100
10658205	With red rubber/ beige PTFE seal	1.0	45° shore A	100
10014224	With white silicone/blue PTFE seal, with cross-slit	1.0	55° shore A	100
10195474	With white silicone/red PTFE UltraClean seal	1.3	45° shore A	100
Transparent cap, hard cap version				
11702428	With red-orange natural rubber/transparent TEF seal	1.0	60° shore A	100
11545934	With white silicone/red PTFE Seal UltraClean	1.3	45° shore A	100
10631793	With PTFE red/Silicone white/PTFE red	0.1	45° shore A	100
10192172	With white silicone/blue PTFE seal, with cross-slit	0.1	55° shore A	100
Blue cap, soft cap version				
10421245	With red-orange natural rubber/transparent TEF seal	1.0	60° shore A	100
11595944	With red rubber/PTFE seal (IM quality)	1.0	45° shore A	100
10004754	With white silicone/blue PTFE seal, with cross-slit	1.0	55° shore A	100
10369694	With white silicone/red PTFE UltraClean seal	1.3	45° shore A	100
Blue cap, hard cap version				
10355962	With silicone white/PTFE red UltraClean	1.3	45° shore A	100
11595934	With white silicone/blue PTFE seal, with cross-slit	1.0	55° shore A	100

Vials, screw, 4mL, 13mm opening ND13

Fisherbrand™ 4mL screw vials are ideal for use with the following autosamplers: Dionex, Shimadzu, Spark, Varian, VWR Merck™/Hitachi, Waters™ (Wisp 48 position carousel).

Cat. No	Description	Capacity, mL	Dimensions, mm	Pack qty
Clear glass				
10571013	Clear, 1st hydrolytic class glass	4	14.7 x 45	100
11576044	Clear glass, 1st hydrolytic class, graduated, with white area for marking	4	14.7 x 45	100
Amber glass				
11556044	Amber, 1st hydrolytic class glass	4	14.7 x 45	100
11586044	Amber, 1st hydrolytic class glas	4	14.7 x 45	100

Caps, screw, black, polypropylene, 13mm

Cat. No	Description	Capacity, mL	Hardness	Pack qty
8.5mm centre hole				
10531593	With red-orange natural rubber/transparent TEF seal	1.3	60° shore A	100
10010922	With cream silicone/red PTFE seal	1.5	55° shore A	100
Closed top				
11506054	With red-orange natural rubber/transparent TEF seal	1.3	60° shore A	100
12911221	With red butyl/grey PTFE seal	1.3	55° shore A	100
11536054	With cream silicone/red PTFE seal	1.5	55° shore A	100
Closed cap				
11506044	Closed PP black screw cap	N/A	-	100

Vials, shell, 1mL, 2mL and 4mL

Clear and amber Fisherbrand™ shell vials are suitable for use with Alcott, Gilson, Shimadzu and Waters™ (Wisp 96 and 48 position carousel) autosamplers.

Cat. No	Capacity, mL	Dimensions, mm	Pack qty
Clear glass with transparent polyethylene plug			
10145424	1.0 (for Waters™ Wisp 96 Pos. Carousel, Shimadzu)	8.2 x 40	100
11555914	2.0 (for various instruments)	11.6 x 31.5	100
11516074	4.0 (for Waters™ Wisp 48 Pos. Carousel)	14.65 x 44.6	100
Amber glass with transparent polyethylene plug			
10506075	1.0 (for Waters™ Wisp 96 Pos. Carousel, Shimadzu)	8.2 x 40	100
11565914	2.0 (for various instruments)	11.6 x 31.5	100
10455982	4.0 (or Waters™ Wisp 48 Pos. Carousel)	14.65 x 44.6	100

Vials, precision thread, 18mm opening, headspace

Precision thread headspace vials are compatible with CTC PAL, Varian, Gerstel, Atas, Shimadzu and Agilent autosamplers.

Cat. No	Description	Capacity, mL	Dimensions, mm	Pack qty
Clear 1st hydrol. class glass				
11506114	Precision thread headspace vial, clear glass, round bottom	10	22.5 x 46	100
12941221	Precision thread headspace vial, clear glass, round bottom	20	22.5 x 75.5	100
Amber 1st hydrol. class glass				
11526114	Precision thread headspace vial, amber glass, round bottom	10	22.5 x 46	100
12951221	Precision thread headspace vial, amber glass, round bottom	20	22.5 x 75.5	100

Black PP screw closed-top cap 18mm

Cat. No	Septa material	Thickness, mm	Pack qty
10590623	Closed top PP screw cap black butyl red/ PTFE grey	1.6	100

Caps, screw, magnetic, precision thread, for headspace vials, 18mm

Cat. No	Septa material	Thickness, mm	Hardness	Pack qty
8mm centre hole, silver				
12961221	White silicone/red PTFE UltraClean	1.3	45° shore A	100
12971221	Transparent blue silicone/white PTFE UltraClean	1.3	45° shore A	100
12981221	White silicone/blue PTFE UltraClean	1.5	55° shore A	100
10729264	Red butyl/grey PTFE	1.6	55° shore A	100
Closed top, silver				
12901231	White silicone/red PTFE UltraClean	1.3	45° shore A	100
12911231	Red butyl/grey PTFE	1.6	55° shore A	100

To check compatibility with your autosampler go to the Product Resources section of the Fisherbrand website, www.eu.fishersci.com/go/fisherbrand, and select 'Compatibility Charts' from the drop down menu

Vials, crimp, 20mm opening, headspace

Cat. No	Description	For use with	Capacity, mL	Dimensions, mm	Pack qty
Clear 1st hydrol. class glass					
10192652	Headspace vial, crimp, clear glass, flat bottom	Varian	5	20 x 38	100
10663303	Headspace vial, crimp, clear glass, round bottom	Perkin Elmer	5	22 x 38.2	100
11520545	Headspace vial, crimp, clear glass, flat bottom	Varian	10	20 x 54.5	100
10681033	Headspace vial, DIN-crimp, clear glass, round bottom	Carlo Erba, CTC, Fisons, Varian (CP)	10	22.5 x 46	100
10680843	Headspace vial, DIN-crimp, clear glass, long neck, flat bottom	Carlo Erba, Dani, Fisons, Agilent	10	22.5 x 46	100
10080822	Headspace vial, crimp, clear glass, round bottom	Perkin Elmer, Tekmar	20	23 x 75.5	100
10152512	Headspace vial, crimp, clear glass, flat bottom, graduated, with marking spot	Perkin Elmer, Tekmar	20	23 x 75.5	100
12971231	Headspace vial, DIN-crimp, clear glass, long neck, flat bottom	Carlo Erba, Dani, Fisons, Agilent	20	22.5 x 75.5	100
10070952	Headspace vial, DIN-crimp, clear glass, long neck, round bottom	CTC PAL (Varian, Gerstel, Atas, Shimadzu) + TriPlus HS)	20	22.5 x 75.5	100
10510323	Headspace SPME vial, special crimp neck	CTC Pal	20	22.5x75.5	100
12990951	Headspace vial rounded bottom with screw thread 18mm	Perkin Elmer	20	23x75.5	100
11530535	Other vial, crimp, clear glass, flat bottom	-	50	31 x 101	100
Amber 1st hydrol. class glass					
10195012	Headspace vial, DIN-crimp, amber glass, round bottom	Carlo Erba, CTC, Fisons, Varian (CP)	10	22.5 x 46	100
12981241	Headspace vial, crimp, amber glass, round bottom	Perkin Elmer, Tekmar	20	23 x 75.5	100
12910991	Headspace vial, DIN-crimp, amber glass, long neck, round bottom	CTC PAL (Varian, Gerstel, Atas, Shimadzu) + TriPlus HS)	20	22.5 x 75.5	100

Septa and stopper 20mm.

Cat. No	Description	Thickness	Hardness	Pack qty
11825020	Moulded septa butyl/PTFE grey	3.0	50° shore A	1,000
11500555	Butyl injection stopper rec. by PerkinElmer	-	55° shore A	1,000

To check compatibility with your autosampler go to the Product Resources section of the Fisherbrand website, www.eu.fishersci.com/go/fisherbrand, and select 'Compatibility Charts' from the drop down menu

Caps, crimp, aluminium, 20mm, headspace

Cat. No	Description	Septa material	Thickness, mm	Hardness	Pack qty
12991231	Aluminium cap, plain, 10mm centre hole	Chloro-butyl septa, non-PTFE laminated	3.0	55° shore A	100
12901241	Headspace cap, clear, lacquered	Chloro-butyl septa, non-PTFE laminated	3.0	55° shore A	100
11510515	Magnetic cap, gold, 8mm centre hole	Chloro-butyl septa, non-PTFE laminated	3.0	55° shore A	100
10112372	Aluminium cap, plain, 10mm centre hole	Pharma-Fix bromo-butyl/grey PTFE septa, all PTFE laminated	3.0	50° shore A	100
12921241	Headspace cap, clear lacquered	Pharma-Fix bromo-butyl/grey PTFE septa, all PTFE laminated	3.0	50° shore A	100
10182174	Magnetic cap, gold, 5mm centre hole	Bromo-butyl/grey PTFE	3.0	50° shore A	1,000
11520515	Magnetic cap, gold, 8mm centre hole	Pharma-Fix septa, bromo-butyl/grey PTFE septa, all PTFE laminated	3.0	50° shore A	100
10500633	Aluminium cap, plain, 10mm centre hole	With Pharma-Fix butyl/PTFE laminated septa	3.0	50° shore A	100
10090772	Headspace cap, clear, lacquered	With Pharma-Fix bromo-butyl/PTFE laminated septa	3.0	50° shore A	100
10739834	Aluminium cap, plain, 10mm centre hole	Transparent blue silicone/white PTFE UltraClean, all PTFE laminated	3.0	45° shore A	100
12951241	Headspace cap, clear, lacquered	Transparent blue silicone/white PTFE UltraClean, all PTFE laminated	3.0	45° shore A	100
10172272	Magnetic cap, gold, 8mm centre hole	Transparent blue silicone/transparent PTFE UltraClean, all PTFE laminated	3.0	45° shore A	100
10472804	Magnetic cap, gold, 5mm centre hole	Silicone blue transparent/PTFE transparent UltraClean	3.0	45° shore A	1,000
11540515	Magnetic cap, gold, 8mm centre hole for SPME-Vial for CTC	Silicone white/ thin casted PTFE blue UltraClean	1.5	55° shore A	100
10617445	Magnetic bimetal cap, red, 8mm centre hole	Transparent blue silicone/transparent PTFE UltraClean, all PTFE laminated	3.0	45° shore A	100
11590505	Aluminium cap, plain, 10mm centre hole	White silicone/beige PTFE, all PTFE laminated (HT quality)	3.2	45° shore A	1,000
11580505	Headspace cap, clear, lacquered	White silicone/beige PTFE (HT quality), all PTFE laminated	3.2	45° shore A	1,000
10623113	Aluminium cap, plain 10mm, centre hole	Silicone white/aluminium foil silver	3.0	50° shore A	100
10102182	Headspace cap, clear lacquered, centre hole	Silicone white/aluminium foil silver	3.0	50° shore A	100

Vials, screw, 24mm opening, EPA ND24

- EPA vials, 1st hydrol. class glass, are for use with Agilent, Dionex, Shimadzu, Tekmar, Thermo, Varian autosamplers

Cat. No	Capacity, mL	Dimensions, mm	Pack qty
Clear glass			
10000782	20	27.5 x 57	100
10758874	30	27.5 x 72.5	100
10465982	40	27.5 x 95	100
11540585	60	27.5 x 140	100
Amber glass			
10458082	20	27.5 x 57	100
11510585	30	27.5 x 72.5	100
11530585	40	27.5 x 95	100
11550585	60	27.5 x 140	100

EPA vials pre-screwed with seal, 24mm

Cat. No	Description	Dimension	Septa material	Thickness, mm	Hardness	Pack qty
12970991	Clear glass vial 40mL	27.5 x 95mm	Natural silicone/beige PTFE (EPA quality)	3.2	45° shore A	100
11510595	Clear glass vial 40mL	27.5 x 95mm	White UltraBond cap centre hole, white silicone/beige PTFE	3.2	45° shore A	100

Caps, screw, polypropylene, 24mm, UltraBond™

UltraBond™ caps and septa form an inseparable unit so that the septum liner cannot fall out or be pushed into the vial when being penetrated with a blunt needle. The 100% firm fit is achieved by a patented process without the use of any glue or adhesive but by changing the molecular structure of the surface of the cap and septa

Cat. No	Description	Septa material	Thickness, mm	Hardness	Pack qty
10729454	White screw cap, 15mm centre hole	Natural silicone/beige PTFE (EPA quality)	3.2	45° shore A	100
10132322	White screw cap, closed top	Natural silicone/beige PTFE (EPA quality)	3.2	45° shore A	100

Caps, screw, polypropylene, 24mm, assembled

Cat. No	Description	Septa material	Thickness, mm	Hardness	Pack qty
11530595	White screw cap, 12.5mm, centre hole	Butyl red/PTFE grey	2.5	55° shore A	100
10090962	White screw cap, closed top	Butyl red/PTFE grey	2.5	55° shore A	100
10541013	White screw cap, 12.5mm, centre hole	Silicone white/PTFE beige (EPA quality)	3.2	45° shore A	100
10132422	White screw cap, closed top	Silicone natural/PTFE beige (EPA quality)	3.2	45° shore A	100

Septa 22mm for 24mm cap

Cat. No	Septa material	Thickness, mm	Hardness	Pack qty
11787617	Silicone white/PTFE beige EPA quality	3.2	45° shore A	1,000

Cap, screw, white polypropylene, 24mm closed top

Cat. No	Description	Pack qty
10759644	Screw cap white, closed top	1,000

Crimping tools

- Crimping tools provide a reproducible, secure vial closure
- Easy and convenient handling
- High quality construction for durability and long life
- Painted, plated and coated for maximum corrosion resistance
- Textured handle surface provides an assured grip

Cat. No	Description	Pack qty
11757577	Crimper for 11mm aluminium caps	1
11748276	Crimper for 13mm aluminium caps	1
11550525	Crimper for 20mm aluminium caps	1
11768276	Decapper for 11mm aluminium caps	1
11500535	Decapper for 20mm aluminium caps	1

For other dimensions contact Fisher Scientific customer service

Crimpers, stainless steel, cleanroom

- Sterilisable
- No lubricant used
- Non-lacquered stainless steel handles

Cat. No	Size, mm	Pack qty
11757746	20	1

Vial racks

- Filling visible thanks to transparent acrylic material

Cat. No	Description	Dimensions, mm	Vial capacity	Diameter, mm	Pack qty
11767597	Acrylic vial rack	173 x 95 x 20	50	12	1

Vials, screw for storage purposes

Cat. No	Description	Capacity, mL	Dimension, mm	Pack qty
Clear 1st hydrol. class glass				
10504463	15-425 screw vial	8	16.6 x 61	100
11576064	15-425 screw vial	12	18.5 x 66	100
10023672	18-400 screw vial	16	20.6 x 71	100
11590545	20-400 screw vial	20	22.7 x 86	100

Caps, black, polypropylene, 15mm, for screw storage vials

Cat. No	Description	Thickness	Hardness	Pack qty
10717793	Screw cap closed top with butyl red/PTFE grey suitable for 15-425 screw vials	1.6	55° shore A	100
11546074	Screw cap closed top with silicone white/PTFE red suitable for 15-425 screw vials	1.3	45° shore A	100
12930941	Screw cap 9mm centre hole with silicone white/ PTFE red suitable for 15-425 screw vials	1.3	45° shore A	100

FISHERBRAND SPOTLIGHT

Fisher Chemical

Identify the appropriate solvent grade for your particular chromatography application from the Fisher Chemical range

Table 9: Fisher Chemical solvent selection guide

Chromatography Application	Instrument and Detector Type	Fisher Chemical Solvent Grade
UHPLC-MS	UHPLC coupled with mass detector	Optima UHPLC-MS
High HPLC-MS	LC and UHPLC coupled with mass detector	Optima LC/MS
HPLC-MS	LC coupled with mass detector	LC/MS grade
UHPLC	UHPLC coupled with UV detector	UHPLC gradient grade
High HPLC Gradient	LC gradient grade coupled with UV detector	HPLC advanced grade
HPLC Gradient	LC gradient grade coupled with UV detector	HPLC gradient grade
HPLC	LC coupled with UV detector	HPLC grade

To ensure suitability for specific detectors (e.g. ECD & fluorescence) several other application specific solvent grades are also available.

Achieve maximum performance in liquid chromatography

Research, quality control or routine analysis – whatever the field of activity, our range of solvents meets the challenges of chromatography from HPLC to UHPLC-MS applications. We can supply the type of solvents, blends and reagents you need, in the grades, sizes and packaging that meet your requirements.

For full information on our full range request a copy of our brochure 'Find the perfect chemicals for your Chromatography' at www.eu.fishersci.com/go/fisherbrand

Fisher Chemical Manufacturing Capabilities

Utilising our chemicals manufacturing sites, we can tailor-make solvents to meet the specifications you provide for your application. Our experience in manufacturing, processing and testing high-purity solvents enables customisation to your specifications. In addition, our dedicated solvent mixing facilities produce high-purity blends specified by our customers.

Take advantage of our long-standing expertise and experience in distillation, processing, testing and packaging high purity solvents to make Fisher Chemical your brand of choice for your chromatography applications.

Water, HPLC for gradient analysis
Cat. No 10367171

Methanol for LC-MS Optima
Cat. No 10031094

Acetonitrile for LC-MS Optima
Cat. No 10001334

For further information visit the Fisher Chemical supplier page on your local Fisher Scientific web site.
To request a copy of our brochure 'Find the perfect chemicals for your Chromatography' www.eu.fishersci.com/go/fisherbrand

CRYOGENICS

Fisherbrand offers a range of products such as cryogenic vials and cryogenic storage boxes designed to make the long term storage of your samples easier, more retrievable, safer and secure.

Cryogenic vials, polypropylene

- Sterile - non-autoclavable
- Non-cytotoxic; non-pyrogenic
- Large white writing area
- Graduations in 0.5mL increments

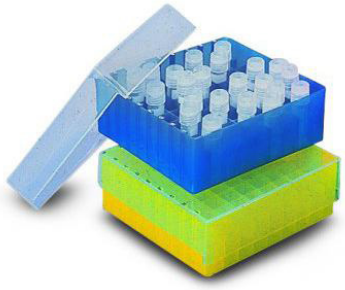
Cat. No	Description	Capacity, mL	Pack qty
External thread, self standing			
12942431	Conical bottom	1.2	1,000
12952431	Conical bottom	2.0	1,000
10858210	Conical bottom	5.0	1,000
Internal thread, conical or round style bottom with a star style foot; self standing			
11311675	Conical bottom	1.2	1,000
11321675	Round bottom	2.0	1,000
11331675	Round bottom	5.0	1,000

For colour coders for your cryogenic vials refer to page 112.

Cryoboxes, polypropylene, 81 place

- Store 1.5/2.0mL microtubes or cryogenic vials in polypropylene storage boxes
- Easy open, friction fit lid
- Rack (L x W x H) 130mm x 130mm x 47mm
- Autoclavable

Cat. No	Colour	Pack qty
10273222	Blue	5
10070182	Pink	5
10325002	Yellow	5
10385042	Orange	5
10500203	Natural	5
10050182	Green	5
10243272	Assorted colours (blue, green, pink, yellow and orange)	5



Cryoboxes, microcentrifuge, polypropylene, 100 place

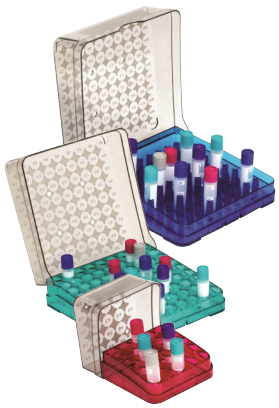
- Durable 100 well storage racks feature three point hinges and clasp for secure lid closure
- Hold 1.5mL to 2mL microtubes and cryovials
- User friendly racks feature moulded grid lines on the lid, imprinted coordinates on the bottom of the base and on the box
- Racks measure 141mm x 151mm x 57mm
- Autoclavable.

Cat. No	Description	Pack qty
11700344	Assorted colours (blue, green, purple, yellow and orange)	5

Cryoboxes, polycarbonate, Arctic Squares™

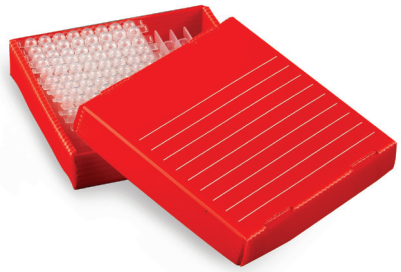
- Boxes will safely store vials from -196°C to +121°C in mechanical freezers as well as liquid nitrogen
- The forward sloped base, high contrast and printed indexing on the transparent lid enable quick visual identification
- All boxes have vent and draining holes
- Autoclavable at 121°C

Cat. No	Description	Dimensions, L x D x H, mm	Colour	Pack qty
11938084	5 x 5 array for 1.2mL/2mL vials	76 x 76 x 53	Red	8
11394055	9 x 9 array tall boxes for 3mL/5mL vials	133 x 133 x 96	Purple	5
11998004	9 x 9 array for 1.2mL/2mL, vials, includes picking tool	133 x 133 x 53	Assorted (red, purple, blue and green)	4
11978004	10 x 10 array for 1.2mL/2mL, vials, includes picking tool	133 x 133 x 53	Blue	4



Cryoboxes, polypropylene, flat-pack

- Cryoboxes are supplied flat-pack eliminating the hassle of stacking and reduces the amount of space needed for storage
- Boxes fit in standard freezer racks
- Easy to assemble
- More durable than cardboard boxes as they are not susceptible to moisture
- Significantly reduces the chance of mould
- Dividers included with the boxes
- Store down to temperatures of -80°C



Cat. No	Accommodates	Wells	Well diameter, mm	Dimensions, mm (l x w x h)	Colour	Pack qty
Corrugated polypropylene 0.2/0.5/1.5 to 2.0/5mL						
15316528	0.2mL tubes	144	7.9	133 x 130 x 30	Natural	10
15326528	0.2mL tubes	144	7.9	133 x 130 x 30	Blue	10
15336528	0.2mL tubes	144	7.9	133 x 130 x 30	Red	10
15346528	0.2mL tubes	144	7.9	133 x 130 x 30	Purple	10
15356528	0.5mL tubes	81	12.0	133 x 130 x 42	Natural	10
15366528	0.5mL tubes	81	12.0	133 x 130 x 42	Blue	10
15376528	0.5mL tubes	81	12.0	133 x 130 x 42	Red	10
15386528	0.5mL tubes	81	12.0	133 x 130 x 42	Purple	10
15226996	1.5/2.0mL tubes	81	12.0	133 x 133 x 51	Natural	10
15396528	1.5/2.0mL tubes	81	12.0	133 x 133 x 51	Blue	10
15306538	1.5/2.0mL tubes	81	12.0	133 x 133 x 51	Red	10
15316538	1.5/2.0mL tubes	81	12.0	133 x 133 x 51	Purple	10
15326538	5mL tubes	25	22.6	133 x 133 x 75	Natural	10
15336538	5mL tubes	25	22.6	133 x 133 x 75	Blue	10
15346538	5mL tubes	25	22.6	133 x 133 x 75	Red	10
15356538	5mL tubes	25	22.6	133 x 133 x 75	Purple	10
Corrugated polypropylene 0.2/0.5/1.5 to 2.0/5mL						
15366538	15mL tubes	36	19.8	145 x 147 x 120	Natural	10
15376538	15mL tubes	36	19.8	145 x 147 x 120	Blue	10
15386538	15mL tubes	36	19.8	145 x 147 x 120	Red	10
15396538	15mL tubes	36	19.8	145 x 147 x 120	Purple	10
15306548	50mL tubes	16	31.6	145 x 147 x 120	Natural	10
15316548	50mL tubes	16	31.6	145 x 147 x 120	Blue	10
15326548	50mL tubes	16	31.6	145 x 147 x 120	Red	10
15336528	50mL tubes	16	31.6	145 x 147 x 120	Purple	10

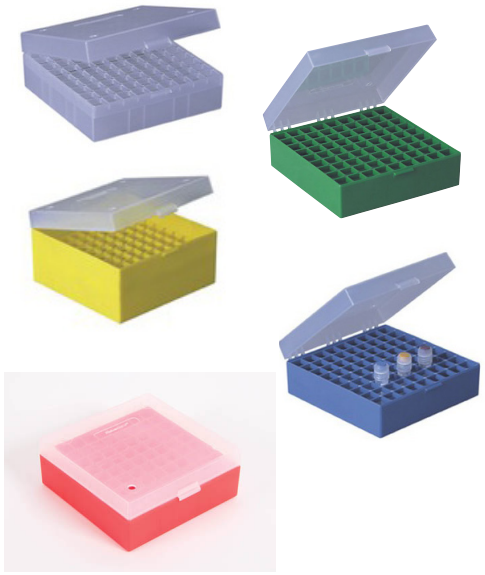
Cryoboxes, polystyrene

- Two-piece racks are constructed of expanded polystyrene (EPS) foam
- Lightweight microtube racks are ideal for long term studies or tube storage
- Extra spacing between wells allows for easy gripping with fingertips
- Racks stack securely with nesting features on lid and base

Cat. No	Accommodates	Wells	Dimensions, mm (l x w x h)	Colour	Pack qty
11774016	1.5/2.0mL tubes	100	336 x 95 x 73	White	10
11948084	1.5/2.0mL tubes	50	210 x 110 x 71	White	10

Cryoboxes, polypropylene, 81 place, with grid inserts

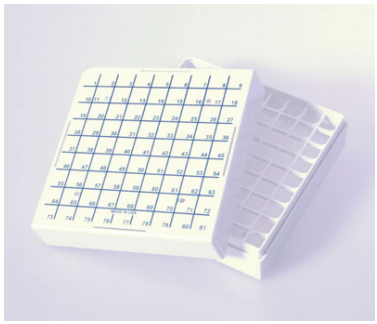
- For sample storage and transportation
- Autoclavable, temperature resistant from -90°C to +121°C
- High quality polypropylene
- Available in natural and various colours
- 81 places, 9 x 9 grid, numerically coded
- Robust hinge with safe snap-on lid
- Stackable for safe transportation
- Drain bores at the bottom for dew liquids
- Removable grid inserts
- Can also be used for larger vessels by removing the grid inserts



Cat. No	Accommodates	Colour	Pack qty
Dimensions (l x w x h), 133mm x 133mm x 52mm, 81 place, 9 x 9 grid			
11856893	81 x 1.2mL to 2.0mL vials	Natural	5
11826903	81 x 1.2mL to 2.0mL vials	Yellow	5
11836903	81 x 1.2mL to 2.0mL vials	Red	5
11856903	81 x 1.2mL to 2.0mL vials	Blue	5
Dimensions (l x w x h), 133mm x 133mm x 75mm, 81 place, 9 x 9 grid			
11866903	81 x 3.0mL to 5.0mL vials	Natural	5
11876903	81 x 3.0mL to 5.0mL vials	Yellow	5
11886903	81 x 3.0mL to 5.0mL vials	Red	5
11896903	81 x 3.0mL to 5.0mL vials	Green	5
11806913	81 x 3.0mL to 5.0mL vials	Blue	5

Cryoboxes, polycarbonate, 81 place

- Separate lid
- Grid reference printed on lid and base
- Can be used in mechanical freezers and liquid nitrogen dewars
- Storage boxes, printed lid, 81 place, 9 x 9 grid



Cat. No	Description	Dimensions [l x w x h], mm	Pack qty
12902431	Storage box for 1.2mL to 2.0mL vials	133 x 133 x 52	24
12912431	Storage box for 5.0mL vials	133 x 133 x 95	24
11788029	Storage box for 1.2mL to 2.0mL vials	133 x 133 x 52	4
11798029	Storage box for 5.0mL vials	133 x 133 x 95	4

Tube rack and box, polypropylene, adjustable

- Robust, rigid storage box with removable inserts to hold either 15mL or 50mL tubes
- Deep grid wells securely hold tubes upright
- With keyed lid and imprinted grid to locate tubes easily
- Can be used without inserts
- Tubes can be seen through transparent lid and box sides
- Fill with ice and use as a temporary workstation

Cat. No	Description	Dimensions [l x w x h], mm	Pack qty
11700634	Interchangeable modules hold 16 x 15mL or 9 x 50mL tubes	132 x 132 x 129	5

FISHERBRAND
SPOTLIGHT

The Fisher Scientific Isotemp™ and Isotemp™ Basic ultra-low temperature (ULT) freezer range combines the highest reliability and superior performance with cost-effective operation and innovative features. These freezers feature an advanced technology platform, refrigeration, microprocessor controls and high-quality construction, delivering reliable sample protection, excellent energy efficiency, and low noise levels.

Fisherbrand also offer a range of Traceable™ Thermometers and Traceable™ Datalogging Thermometers which provides an accurate and reliable record of temperature. Request a copy of our 'Focus on Traceable™ Products' brochure to find out more.

ULT freezer, 651L capacity
Cat. No 12609275

Traceable™ datalogger, Logger-Trac™
Cat. No 15398754

Traceable™ refrigerator/freezer thermometer
Cat. No 11873460

For further information on the products featured visit www.eu.fishersci.com/go/fisherbrand

CUVETTES

This section introduces the new range of Fisherbrand glass cuvettes, which are available in different materials, designs and capacities. Fisherbrand also offers plastic disposal cuvettes which eliminate the need for washing and cleaning.

Cuvettes, micro fluorescence, quartz, with PTFE lid and three clear windows

- Reduce reagent use with micro cells
- Quartz windows for transmission from far ultraviolet through the infrared
- Includes: PTFE lid or stopper

Cat. No	Type	Material	Dimensions, mm	Capacity, µL	Pathlength, mm	Wavelength range, nm	Internal height, mm	Internal width, mm	Pack qty
15235973	Micro fluorescence	Quartz	12.5 x 12.5 x 45	100	10	200 to 2,500	8.5	2	1
15255973	Micro fluorescence	Quartz	12.5 x 12.5 x 45	100	10	200 to 2,500	15	2	1
15205993	Micro fluorescence	Quartz	12.5 x 12.5 x 45	45	3	200 to 2,500	8.5	3	1
15235993	Micro fluorescence	Quartz	12.5 x 12.5 x 45	45	3	200 to 2,500	15	3	1
15266003	Micro fluorescence	Quartz	12.5 x 12.5 x 45	12	3	200 to 2,500	8.5	1.5	1
15296003	Micro fluorescence	Quartz	12.5 x 12.5 x 45	12	3	200 to 2,500	15	1.5	1

Cuvettes, quartz, macro, absorption

- Available in four materials; quartz, optical quartz, special optical glass and optical glass, for a wide range of assay types
- Quartz windows for transmission from far ultraviolet through the infrared
- Glass windows for routine work in ultraviolet region and visible region
- Includes: PTFE lid

Cat. No	Type	Material	Dimensions, mm	Capacity, µL	Pathlength, mm	Wavelength range, nm	Internal width, mm	Pack qty
15255953	Macro absorption	Quartz	12.5 x 12.5 x 52	350	1	200 to 2,500	10	1
15265953	Macro absorption	Quartz	12.5 x 12.5 x 45	1,750	5	200 to 2,500	10	1
15266013	Macro absorption	Quartz	12.5 x 12.5 x 45	300	1	200 to 2,500	10	2
15276013	Macro absorption	Quartz	12.5 x 12.5 x 45	1,500	5	200 to 2,500	10	2
15286013	Macro absorption	Quartz	12.5 x 12.5 x 45	3,000	10	200 to 2,500	10	2
15296013	Macro absorption	Quartz	12.5 x 12.5 x 45	3,000	10	200 to 2,500	10	4
15226023	Macro absorption	Quartz	12.5 x 12.5 x 52	350	1	200 to 3,500	10	2
15246023	Macro absorption	Quartz	12.5 x 12.5 x 45	3,000	10	200 to 3,500	10	2
15256023	Macro absorption	Quartz	12.5 x 12.5 x 45	3,000	10	200 to 3,500	10	4
15266023	Macro absorption	Special optical glass	12.5 x 12.5 x 45	3,000	10	320 to 2,500	10	2
15276023	Macro absorption	Optical glass	12.5 x 12.5 x 45	3,000	10	360 to 2,500	10	2
15286023	Macro absorption	Optical quartz	12.5 x 12.5 x 45	3,000	10	260 to 2,500	10	2
15296023	Macro absorption	Special optical glass	12.5 x 12.5 x 45	3,000	10	320 to 2,500	10	4
15206033	Macro absorption	Optical glass	12.5 x 12.5 x 45	3,000	10	360 to 2,500	10	4
15216033	Macro absorption	Optical quartz	12.5 x 12.5 x 45	3,000	10	260 to 2,500	10	4

Cuvettes, semi-micro, absorption, with PTFE lid and stir bar, two clear windows

- Reduce reagent use with micro cells
- Quartz windows for transmission from far ultraviolet through the infrared
- Two clear windows
- Includes: PTFE lid

Cat. No	Type	Material	Dimensions, mm	Capacity, µL	Pathlength, mm	Wavelength range, nm	Internal width, mm	Pack qty
15246013	Semi-micro absorption	Quartz	12.5 x 12. 5 x 49.5	1,500	10	200 to 2,500	4	1

Cuvettes, semi-micro, fluorescence, with PTFE lid and stir bar, four clear windows

- Reduce reagent use with micro cells
- Quartz windows for transmission from far ultraviolet through the infrared
- Four clear windows
- Includes: PTFE lid

Cat. No	Type	Material	Dimensions, mm	Capacity, µL	Pathlength, mm	Wavelength range, nm	Internal width, mm	Pack qty
15256013	Semi-micro fluorescence	Quartz	12. 5 x 12.5 x 49.5	1,500	10	200 to 2,500	4	1

Cuvettes, macro, absorption, with PTFE stopper

- Quartz windows for transmission from far ultraviolet through the infrared
- Includes: PTFE stopper

Cat. No	Type	Material	Dimensions, mm	Capacity, µL	Pathlength, mm	Wavelength range, nm	Internal width, mm	Pack qty
15216023	Macro absorp-tion	Quartz	12.5 x 12.5 x 45	3,000	10	200 to 2,500	10	4

Cuvette, quartz, semi-micro, UV

- Reduce reagent use with semi-micro cells
- Quartz windows for transmission from far ultraviolet through the infrared
- Includes: PTFE lid

Cat. No	Type	Material	Dimensions, mm	Capacity, µL	Pathlength, mm	Wavelength range, nm	Internal width, mm	Pack qty
15226033	Semi-micro absorption	Quartz	12.5 x 12.5 x 45	1,000	10	200 to 2,500	4	2
15246033	Semi-micro absorption	Quartz	12.5 x 12.5 x 45	1,000	10	200 to 2,500	4	4

Cuvettes, absorption, quartz

- Quartz windows for transmission from far ultraviolet through the infrared
- Includes: PTFE stopper

Cat. No	Type	Material	Dimensions, mm	Capacity, µL	Pathlength, mm	Wavelength range, nm	Internal width, mm	Pack qty
15236033	Semi-micro absorption	Quartz	12.5 x 12.5 x 45	1,000	10	200 to 2,500	4	2

Cuvettes, macro, fluorescence, with PFTE lid, four clear windows

- Reduce reagent use with micro cells
- Quartz windows for transmission from far ultraviolet through the infrared
- Includes: PTFE lid or stopper

	Cat. No	Type	Material	Dimensions, mm	Capacity, µL	Pathlength, mm	Wavelength range, nm	Internal width, mm	Pack qty
1	**15216043**	Macro fluorescence, with lid	Quartz	12.5 x 12.5 x 45	3,000	10	200 to 2,500	10	2
	15296053	Macro fluorescence, with lid	Quartz	12.5 x 12.5 x 45	3,000	10	200 to 2,500	10	4
2	**15246043**	Macro fluorescence, with stopper	Quartz	12.5 x 12.5 x 45	3,000	10	200 to 2,500	10	2

Cuvettes, absorption, quartz, flow

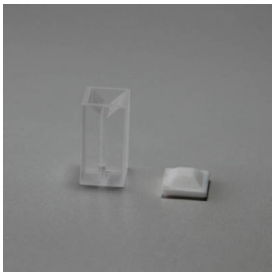
- Compact size
- Fused-on inlet and outlet tubes
- With two clear windows and two black windows

Cat. No	Type	Material	Dimensions, mm	Capacity, µL	Pathlength, mm	Wavelength range, nm	Internal width, mm	Pack qty
15226063	Compact flow	Quartz	12.5 x 12.5 x 45	750	10	190 to 2,600 and 2,850 to 3,600	6.5	1
15236073	Compact flow	Quartz	12.5 x 12.5 x 45	450	10	190 to 2,600 and 2,850 to 3,600	4	1

Cuvettes, micro, absorption, quartz, with PTFE lid

- Reduce reagent use with micro and ultra micro cells
- Quartz windows for transmission from far ultraviolet through the infrared
- Glass windows for routine work in ultraviolet region and visible region
- Includes: PTFE lid or stopper

Cat. No	Type	Material	Dimensions, mm	Capacity, µL	Pathlength, mm	Wavelength range, nm	Internal height, mm	Internal width, mm	Pack qty
15256073	Two clear windows	Quartz	12.5 x 12.5 x 25	300	10	200 to 2,500	-	2	2
15266083	Two clear windows	Quartz	12.5 x 12.5 x 45	500	10	200 to 2,500	-	2	2
15216093	Two clear windows, two black windows	Quartz	12.5 x 12.5 x 45	500	10	200 to 2,500	-	2	2
15246103	Ultra micro absorption cell	Quartz	12.5 x 12.5 x 45	100	10	200 to 2,500	8.5	2	1
15296103	Ultra micro absorption cell	Quartz	12.5 x 12.5 x 45	100	10	200 to 2,500	15	2	1
15216123	Ultra micro absorption cell	Quartz	12.5 x 12.5 x 45	50	10	200 to 2,500	8,5	2	1
15286123	Ultra micro absorption cell	Quartz	12.5 x 12.5 x 45	50	10	200 to 2,500	15	2	1



Cuvettes, disposable, polystyrene

- Transparency: approximately 90% between 400nm and 800nm

Cat. No	Material	Dimensions, mm (w x h)	Capacity, µL	Pathlength, mm	Wavelength range, nm	Pack qty
11537692	PS	12.5 x 45	4,000	10	336 to 850	100
11547692	PS	12.5 x 45	1,600	10	336 to 850	100

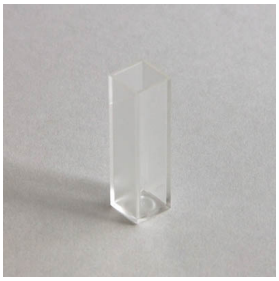
Cuvettes, disposable, PS and PMMA

- Disposable 10mm pathlength cuvettes designed for visible and UV/Vis assay
- Moulded-in arrow indicates direction of transmission on standard and semi-micro cuvettes to assure uniformity
- Clear four sided cuvettes are ideal for fluorimetry and nephelometry, as well as spectrophotometry
- Each case contains cuvettes with same mould impression number
- In stackable trays

Cat. No	Type	Material	Capacity, µL	Pathlength, mm	Wavelength range, nm	Inner pack qty	Pack qty
11682599	Standard/macro	Polystyrene	4,000	10	340 to 750	100	500
11602609	Semi-micro	Polystyrene	1,500	10	340 to 750	100	500
11954395	4 clear sides	Polystyrene	4,500	10	340 to 750	100	500
11944385	Standard/macro	Methacrylate	4,500	10	285 to 750	100	500
11904385	Semi-micro	Methacrylate	1,500	10	285 to 750	100	500
11924405	4 clear sides	Methacrylate	4,500	10	285 to 750	100	500

Cuvette, UV, polystyrene single use

- Clear cuvette with two windows
- Supplied in a styrofoam tray



Cat. No	Material	Dimensions, mm (w x h)	Capacity, µL	Pathlength, mm	Wavelength range, nm	Pack qty
10349334	PS	12.5 x 12.5 x 45	4,000	10	220 to 900	100
10594175	PS	12.5 x 12.5 x 45	1,600	10	220 to 900	100

Cuvette, UV/visible, polystyrene

Cat. No	Material	Capacity, µL	Pathlength, mm	Wavelength range, nm	Pack qty
11837832	PS	4,000	10	Visible	1,000
11847832	PS	1,600	10	Visible	1,000
11817922	PS	4,000	10	UV/visible	1,000
11827922	PS	1,600	10	UV/visible	1,000

FISHERBRAND SPOTLIGHT

The Fisherbrand digital colorimeter is an easy-to-use instrument and is a perfect accompaniment to the range of Fisherbrand cuvettes. Samples can be measured in either standard 10mm pathlength cuvettes (a minimum of 400µL is required) or in 16mm diameter test tubes (adapters for 10/12mm test tubes are available as an optional accessory)

Digital colorimeter
Cat. No 11805962 (EU plug)
Cat. No 11528092 (UK plug)

For further information on the products featured visit www.eu.fishersci.com/go/fisherbrand

CYLINDERS

All Fisherbrand measuring cylinders are graduated with capacities ranging from 5mL to 2,000mL. The cylinder product offering is complete with Class A and Class B, spout or stoppered, and squat or low form.

Class B cylinders are used for basic measurement of liquids in qualitative work such as measuring solvents for reactions, making up solutions or adding an excess of a reagent, and are ideal for schools, universities and for general research laboratories. Class A cylinders, however, are intended for more accurate measurement of liquids and are used in analytical labs, quantative labs, and other controlled environments. However, they are not suitable for work which requires greater accuracy of less than 1%. For this a bulb pipette (0.2%) or a volumetric flask should be used.

Cylinders, borosilicate glass, Class A

- Graduated in blue ceramic markings
- Hexagonal base
- Individual reorder code on each item
- DIN 12680 BS 604 ISO 4788
- Pouring spout

Cat. No	Capacity, mL	Graduations, mL	Pack qty
12952310	5	0.1	2
11517832	10	0.2	2
11527832	25	0.5	2
11537832	50	1	2
11547832	100	1	2
11557832	250	2	2
11567832	500	5.0	2
11577832	1,000	10	2
12962320	2,000	20	2

Cylinders, borosilicate glass, Class B, spouted

- Graduated in blue ceramic markings
- Hexagonal base
- Individual reorder code on each item
- DIN 12680 BS 604 ISO 4788
- Pouring spout

Cat. No	Capacity, mL	Graduations, mL	Pack qty
11507702	5	0.1	2
11517702	10	0.2	2
11527702	25	0.5	2
11537702	50	1.0	2
11547702	100	1.0	2
11557702	250	2.0	2
11567702	500	5.0	2
11577702	1,000	10.0	2
11587702	2,000	20.0	1

Cylinders, borosilicate glass, Class B, blue ceramic graduations

- Graduated in blue ceramic markings
- Hexagonal base
- Individual reorder code on each item
- DIN 12680 BS 604 ISO 4788
- With blue polypropylene stopper

Cat. No	Capacity, mL	Graduations, mL	Pack qty
11884263	25	0.5	2
12065645	50	1.0	2
11903365	100	1.0	2
12075645	250	2.0	2
11708265	500	5.0	2
12055645	1,000	10	2
12045645	2,000	20	1

Cylinders, borosilicate glass, squat form, spouted, Class B

- Graduated in blue ceramic markings
- Hexagonal base
- Individual reorder code on each item
- DIN 12680 BS 604 ISO 4788

Cat. No	Capacity, mL	Graduations, mL	Pack qty
11902158	10	1.0	2
11912158	25	1.0	2
11922158	50	2.0	2
11932158	100	2.0	2
11942158	250	5.0	2
11952158	500	10	2
11962158	1,000	20	2

Cylinders, borosilicate glass, spouted, left handed, Class B

- Graduated in blue ceramic markings
- Hexagonal base
- Individual reorder code on each item
- DIN 12680 BS 604 ISO 4788
- With blue polypropylene stopper

Cat. No	Capacity, mL	Graduations, mL	Pack qty
11972158	10	0.2	2
11982158	25	0.5	2
11992158	50	1.0	2
11902168	100	1.0	2
11912168	250	2.0	2

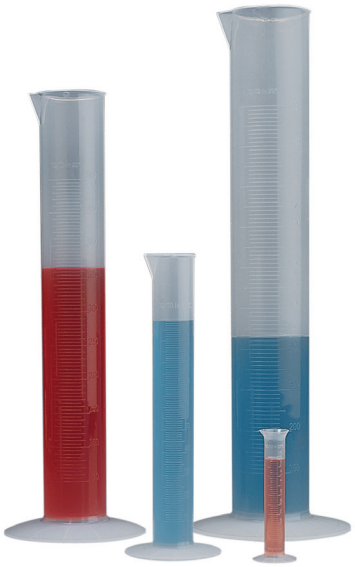
Cylinders, Nessler

- Manufactured from borosilicate glass. Fisherbrand™ Nessler cylinders have a completely flat base.

Cat. No	Capacity, mL	Pack qty
11922168	50	2
11932168	100	2

Cylinders, plastic, graduated, with spout

- Large rounded bases ribbed for reinforcement and stability
- Calibrated 'To Contain/To Deliver' at 20°C - meets ASTM laboratory standards
- Chemical, heat and impact resistant makes these cylinders excellent for long term use
- No meniscus to confuse readings - eliminates guesswork



Cat. No	Capacity, mL	Pack qty
Cylinders, PPCO		
11947884	10	12
11957884	25	12
11967884	50	12
11997874	100	8
11907884	250	8
11967874	500	6
11937874	1,000	4
11927874	2,000	2
Cylinders, PMP		
11907894	25	18
11917894	50	18
11977884	100	12
11917884	500	8
11977874	1,000	6
11947874	2,000	4

FISHERBRAND SPOTLIGHT

The Fisherbrand drying and spill tray is a chemical resistant containment tray ideal for drying your labware after washing. The plastic grid cuts drying time in half by permitting air circulation and also cushions and protects your labware against breakages and scratches.

Don't forget that Fisherbrand can also provide everyday essential safety products such as laboratory coats, gloves and bench protector absorbent paper.

Gloves, latex, Aloe vera, medium
Cat. No 15173269

Gloves, nitrile, extra protection, medium
Cat. No 15103279

Drying rack and spill tray
Cat. No 11704266

Bench protector, absorbent paper
Cat. No 11728742

For further information on the products featured visit www.eu.fishersci.com/go/fisherbrand

FLASKS

Flasks are familiar and invaluable items in most laboratories essential for containing liquid and performing mixing, heating, cooling, precipitation, condensation and other processes. The range featured in this section includes Erlenmeyer or conical flasks, Büchner or sidearm flasks (ideal for creating vacuums) and volumetric flasks (clear and amber) used to measure accurately volumes of liquid.

Flasks, borosilicate glass, conical, narrow neck, ISO 1773

- Erlenmeyer, graduated

Cat. No	Capacity, mL	Height, mm	Widest OD, mm	OD. Neck, mm	Pack qty
15499093	50	90	51	22	10
15409103	200	135	79	34	10
15419103	250	145	85	34	10
15429103	300	160	87	34	10
15439103	500	180	105	34	10
15449103	1,000	220	131	42	10
15459103	2,000	280	166	50	1
15469103	3,000	310	187	50	1
15479103	5,000	365	220	50	1

Flasks, borosilicate glass, conical, wide neck

- Erlenmeyer, graduated

Cat. No	Capacity, mL	Height, mm	Widest OD, mm	OD. Neck, mm	Pack qty
15489103	50	85	51	34	10
15499103	100	105	64	34	10
15409113	250	140	85	50	10
15419113	300	156	87	50	10
15429113	500	175	105	50	10
15466133	1,000	220	131	50	10

Flasks, borosilicate glass, narrow neck, heavy duty

- Erlenmeyer, graduated

Cat. No	Capacity, mL	Height, mm	Widest OD, mm	Stopper size	Pack qty
15476133	25	65	39	0	12
15496133	50	78	50	1	12
15406143	125	108	66	5	12
15426143	250	130	82	6	12
15436143	500	174	102	7	6
15446143	1,000	213	128	9	6
15456143	2,000	275	161	10	4
15466143	4,000	355	208	10	1
15439113	6,000	395	241	10	1

Flasks, borosilicate glass, wide neck, heavy duty

- Erlenmeyer, graduated

Cat. No	Capacity, mL	Height, mm	Widest OD, mm	Stopper size	Pack qty
15486143	125	108	66	6	12
15496143	250	130	77	8	12
15406153	500	172	97	10	6
15416153	1 ,000	216	122	11	6

Flasks, borosilicate glass, conical, culture, narrow neck

- Fluted, with four indents down the length of the wall to significantly increase the oxygen intake in the flask

Cat. No	Capacity, mL	Height, mm	Diameter, mm	Internal neck diameter, mm	Pack qty
11532283	250	140	85	30	1
11542283	500	180	105	30	1
11552283	1,000	225	130	34	1
11562283	2,000	280	165	41	1

Flasks, filter, borosilicate glass, heavy duty

- With side arm

Cat. No	Capacity, mL	Internal diameter, mm	Height, mm	Stopper size	Pack qty
15426153	250	163	83	6	6
15436153	500	190	104	7	6
15446153	1,000	238	135	8	6
15456153	2,000	300	168	11	1
15466153	4,000	380	208	12	1

Volumetric flasks, borosilicate glass, Class A certified

- ISO 1042, DIN 12664
- One mark graduation
- Interchangeable polyethylene stopper
- Details on each flask include confirmation of compliance to International Standards as well as an individual reorder code
- Batch certificate available

Cat. No	Capacity, mL	Tolerance, mL	Stopper Ø, mm	Neck O.D., mm	Pack qty
Flasks, clear, white markings					
11576923	5	0.04	10/19	13	5
11586923	10	0.04	10/19	13	5
11596923	20	0.04	10/19	13	5
11506933	25	0.04	10/19	13	5
11516933	50	0.06	12/21	15	5
11526933	100	0.10	12/21	15	5
11536933	200	0.20	14/23	17	2
11546933	250	0.30	14/23	17	2
11556933	500	0.25	19/24	22	2
11566933	1,000	0.40	24/29	28	2
11576933	2,000	0.60	29/32	28	1
Flasks, amber, white markings					
11379433	10	0.025	10/19	13	5
11389433	20	0.04	10/19	13	5
11399433	25	0.04	10/19	13	5
11309443	50	0.06	12/21	15	5
11319443	100	0.08	12/21	15	5
11329443	200	0.10	14/23	17	2
11339443	250	0.12	14/23	17	2
11349443	500	0.20	19/24	22	2
11359443	1,000	0.30	24/29	28	2

Flasks, shaker, polycarbonate

- For suspension cultures, media preparation or storage.
- Moulded in graduations
- Polycarbonate with polypropylene closure; vented closure has 0.22µm pore PTFE
- Sterile, non-pyrogenic and non-cytotoxic
- Certified sterile at 10^{-6} SAL USP Class VI (5 year shelf life)
- For single use; individually packed for easy storage and handling
- Available with plain bottom for use on bench top, or baffled bottom for shaker table use
- Available with vented or non-vented screw closures
- Flask and non-vented closures are autoclavable

Cat. No	Capacity, mL	Height, mm	Diameter, mm	Internal neck diameter, mm	Style	Pack qty
Plain bottomed flask						
11735373	125	113	66	26	Vented	24
11765253	250	137	83	26	Vented	12
11725263	500	178	102	38	Vented	12
11755253	1,000	224	130	36	Vented	6
11775263	2,000	274	162	36	Vented	4
11765373	2,800	239	203	61	Vented	4
11735263	125	113	66	26	Non-vented	24
11725253	250	137	83	26	Non-vented	12
11785253	500	178	102	38	Non-vented	12
11705253	1,000	224	130	36	Non-vented	6
Baffled bottomed flask						
11755263	125	113	66	26	Vented	24
11735253	250	137	83	26	Vented	12
11705263	500	178	102	38	Vented	12
11715253	1,000	224	130	36	Vented	6
11725373	2,000	274	162	36	Vented	4

FISHERBRAND SPOTLIGHT

A comprehensive range of stirrers and hotplates is available from Fisherbrand. These products, together with magnetic stir bars and magnetic retrievers provide a complete offering for your routine and more advanced stirring and heating applications.

Magnetic stir bar set
Cat. No 10226853

Ultra thin magnetic stirrer
Cat. No 15361901

Magnetic stir bar retriever
Cat. No 11532912

Magnetic stirrer, RT Basic
Cat. No 15336607 (2L capacity)
Cat. No 15346607 (4L capacity)
Cat. No 15356607 (5L capacity)

Digital hotplate, Isotemp RT
Cat. No 15306607

Digital hotplate stirrer, Isotemp RT
Cat. No 15316607

Digital hotplate stirrer, Isotemp RT Advanced, complete with safety screen
Cat. No 15326607

For further information on the products featured visit www.eu.fishersci.com/go/fisherbrand

FUNNELS

Fisherbrand offers a comprehensive range of funnels, including lightweight disposable polypropylene funnels through to Büchner and filter funnels for vacuum filtration. The range also includes speciality separating funnels, used to separate the components of a mixture into two immiscible solvent phases (usually organic and aqueous) of different densities.

Funnels, borosilicate glass, conical

Cat. No	Top diameter, mm	Stem length, mm	Stem outer diameter, mm	Pack qty
11572423	55	60	8	10
11582423	75	80	9	10
11592423	100	110	12	10
11502433	155	150	19	1
11512433	215	180	24	1

Funnels, borosilicate glass, conical, powder

Cat. No	Top diameter, mm	Stem length, mm	Stem outer diameter, mm	Pack qty
12983591	55	20	13	1
12993591	75	25	16	1
12903601	100	30	22	1

Funnels, borosilicate glass, short stem

Cat. No	Top diameter, mm	Stem length, mm	Stem outer diameter, mm	Pack qty
10710105	30	35	6	10
10042222	35	40	7	10
10720295	45	50	7	10
10730295	50	55	7	10
10124352	55	60	8	10
10134352	60	65	8	10
10082242	75	80	9	10
10767414	80	85	9	10
10123682	100	110	12	10
10082252	120	120	17	10

Funnels, borosilicate glass, separating, ISO 4800

- Available with interchangeable glass or PTFE stopcock, but supplied with a glass and plastic stopper.

Cat. No	Capacity	Stopper size	Pack qty
PTFE stopcock, interchangeable			
11562782	50	19/26	1
11572782	100	19/26	1
11582782	250	24/29	1
11592782	500	24/29	1
11502792	1,000	29/32	1
Glass stopcock, interchangeable			
11942128	50	19/26	1
11952128	100	19/26	1
11962128	250	24/29	1
11972128	500	24/29	1
11982128	1,000	29/32	1

Funnels, borosilicate glass, separating, pear shaped, ISO 4800

- Available with interchangeable glass or PTFE stopcock, but supplied with a glass and plastic stopper

Cat. No	Capacity	Stopper size	Pack qty
Glass stopcock, interchangeable			
11992128	50	19/26	1
11902138	100	19/26	1
11912138	250	24/29	1
11922138	500	24/29	1
11932138	1,000	29/32	1
PTFE stopcock, interchangeable			
11942138	50	19/26	1
11952138	100	19/26	1
11962138	250	24/29	1
11972138	500	24/29	1
11982138	1,000	29/32	1

Funnels, borosilicate glass, conical, sintered, filter

- With sintered glass disc

Cat. No	Porosity	Capacity, mL	Disc diameter, mm
11902148	3	35	30
11912148	4	35	30
11922148	3	80	40
11932148	4	80	40
11942148	3	125	65
11952148	4	125	65
11962148	3	500	95

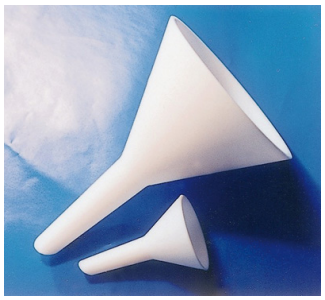
Funnels, polypropylene

Cat. No	Top diameter, mm	Stem length, mm	Stem outer diameter, mm	Capacity, mL	Pack qty
Funnels, analytical					
11947914	34	52	6	12	36
11957914	48	50	7	23	36
11967914	55	61	7	37	36
11977914	66	65	7	50	36
11987914	77	80	7	100	36
11977904	104	99	9	150	24
11987904	158	151	14	225	24
Funnels, powder					
11997914	65	22	16	50	36
11907924	79	29	16	100	36
11997904	104	33	21	225	24
11907914	147	30	27	750	24
Funnels, utility					
11997934	68	21	14	40	72
11907944	87	22	13	100	72
11917944	109	37	18	140	72
11927944	127	46	19	210	72
11917914	160	66	48	410	24
11997884	203	46	24	500	12

Funnels, PTFE, conical

- Chemically inert with super smooth, non-stick internal finish

Cat. No	Top diameter, mm	Stem length, mm	Stem O.D., mm	Pack qty
10232242	33	30	10	1
10314032	52	52	16	1
10189951	79	63	18	1
10140002	104	79	22	1
10620463	158	84	24	1



FISHERBRAND SPOTLIGHT

A wide range of filter papers is available from Fisherbrand which are suitable for general filtration of many types of samples.

For reliable, quick and easy filtrations operating at just the right vacuum, the Fisherbrand oil-free piston pump is ideal - just one of the many vacuum pumps available from Fisher Scientific.

Filter paper QL 100
Cat. No 11425248

Funnels
pages 73 to 75

Vacuum and pressure pump, oil free
Cat. No 11533485

For further information on the products featured visit www.eu.fishersci.com/go/fisherbrand

HOMOGENISERS

The Fisherbrand range of manual glass homogenisers (sometimes also referred to as tissue grinders) is used during the initial stages of sample preparation to break down and disrupt a range of materials such as animal or plant tissues, foodstuffs and soil.

Homogenisers, borosilicate glass, Griffiths tube

- For grinding bacterial emulsions and tissues, tube 90mm to 95mm, 18mm O.D. narrowing to ground, rounded end
- Ground half spherical pestle and mortar ends ensure perfect grinding

Cat. No	Capacity, mL	Chamber length, mm	Length [max.], mm	Pestle diameter, mm
11542443	5	90	150	12
With projections for coarse grinding. Mortar length 220mm				
11552443	15	95	305	15

Homogenisers, borosilicate glass, Dounce

- Designed for fine particle size reductions without damage to cell nuclei. Supplied with two interchangeable pestles
- Pestles are ground and polished for use in same tube. 'Loose' pestle used for sample preparation, 'tight' pestle for final homogenate

Cat. No	Capacity, mL	Chamber length, mm	Pestle diameter, mm	Pack qty
11562443	1	48	7.5	2
11572443	7	82	13	2
11582443	15	94	15	2
11592443	40	140	25	2

Homogenisers, borosilicate glass, mini

- High quality mini homogenisers ideal for micro tissue work
- Bodies are clear precision glass. Pestles have ground glass working length

Cat. No	Capacity, mL	Chamber length, mm	Pestle diameter, mm	Pack qty
11512443	0.1	31	3.65	1
11522443	1.0	55	5.0	1
11532443	3.0	60	9.0	1

Homogenisers, borosilicate glass, Safe-Seal™

- Supplied with a PTFE pestle, stainless steel handle and borosilicate glass mortar which is stoppered in PTFE to protect against splash back during the grinding process..

Cat. No	Capacity, mL	Chamber length, mm	Pestle diameter, mm
11592453	5	65	10
11502463	10	75	13
11512463	15	80	15
11522463	30	105	19

FISHERBRAND SPOTLIGHT

In addition to our products for manual grinding, Fisher Scientific is able to offer a range of ultrasonic disintegrators ideal for cell lysis and cell preparation.

Ultrasonic disintegrator, 50W
Cat. No 12961151

Ultrasonic disintegrator, 150W
Cat. No 12337338

Ultrasonic disintegrator, 500W
Cat. No 12893543

For further information on the products featured visit www.eu.fishersci.com/go/fisherbrand

MICROPLATES

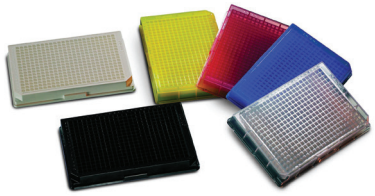
Microplates (or microtiter plates) are primarily used in analytical research for screening or multiple cell-based assays such as ELISA's (Enzyme-Linked Immunosorbent Assay). They are ideal products for simultaneously manipulating and managing large numbers of different samples and can also be useful for sample storage.

The Fisherbrand range features a variety of well designs and sizes, plastic materials and colours.

Microplates, polypropylene, storage plates, 96 and 384 well

- Resistant to most reagents
- Withstand temperatures from -80°C to 121°C making these plates ideal for storage
- Round bottom wells for optimal sample recovery
- Come in a variety of colours for quick identification during storage

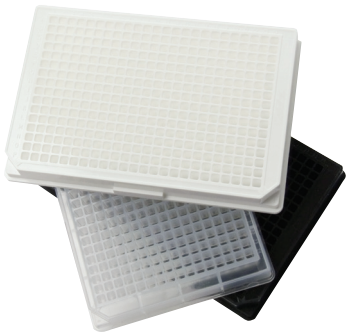
Cat. No	Material	N° of wells	Colour	Well shape	Sterile	Well volume	Pack qty
11907954	PP	96	Natural	Round	N	500µL	80
11917954	PP	96	Red	Round	N	500µL	80
11927954	PP	96	Yellow	Round	N	500µL	80
11937954	PP	96	Blue	Round	N	500µL	80
13505450	PP	96	Natural	Round	Y	500µL	120
13515450	PP	96	Natural	Round	Y	1mL	50
13535450	PP	96	Natural	Round	N	2mL	60
13545450	PP	96	Natural	Round	Y	2mL	60
13555450	PP	384	Natural	Flat	N	250µL	60
13565450	PP	384	Natural	Conical	N	35µL	100
13575450	PP	384	Natural	Conical	Y	35µL	100
13595450	PP	384	Black	Conical	N	35µL	100
13585450	PP	384	White	Conical	N	35µL	100
11957954	PP	384	Natural	Round	N	120µL	120
11967954	PP	384	Red	Round	N	120µL	120
11977954	PP	384	Yellow	Round	N	120µL	120
11987954	PP	384	Blue	Round	N	120µL	120



Microplates, polystyrene, non-treated, 96, 384 and 1536 well

- 96 well microplates are ideal for antibiotic screens, cell-based assays and screening compounds
- 384 well microplates conserve samples and reagents, providing cost savings and greater screening productivity
- 1,536 well microplates are engineered for high throughput screening, allowing end users to screen four times as many samples in one plates

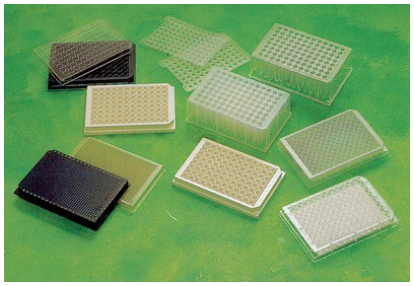
Cat. No	Material	N° of wells	Colour	Well shape	Sterile	Well volume, µL	Pack qty
11381555	PS	96	Natural	Round	N	1,300	50
11987944	PS	96	Clear	Round	N	300	80
11997944	PS	96	Clear	Flat	N	400	80
13525440	PS	96	White	Flat	N	400	180
13535440	PS	96	Black	Flat	N	400	180
13575480	PS	96	Clear	Flat	N	300	180
11947954	PS	384	Clear	Flat	N	120	80
13545440	PS	384	White	Flat	N	120	100
13555440	PS	384	Black	Flat	N	120	100
13565440	PS	384	Clear	Flat	N	120	100
13575440	PS	1,536	Clear	Flat	N	13.4	100
13585440	PS	1,536	Black	Flat	N	13.4	100
13595440	PS	1,536	White	Flat	N	13.4	100
Accessory							
11927964	Lid for 96/384 well plate, polystyrene, clear, non sterile						180



Microplates, 96 well, polystyrene, Krystal™

- Ideal for instruments that read through the bottom or the top and bottom of the plate
- Tissue culture treated plate allows cells to be cultured and counted in the same plate
- Clear bottom allows cell growth to be monitored easily using an inverted microscope

Cat. No	Colour	Pack qty
Non-treated, non-sterile		
12419297	White with clear bottom	100
Tissue culture treated, sterile, with lid, individually packed		
11597193	White with clear bottom	100



Microplates, polypropylene, storage, deep well, 96 well

- Applications include sample storage for SPE, HPLC, MS, liquid handling, automation, robotics
- Unique, patented sealing cap allows penetration of a needle through the cap into each well, minimising coring of the needle as the base of each well of the cap has been reduced in thickness
- Manufactured from inert polypropylene for heat and solvent resistance
- Conical well base aids sample concentration, reconstitution and centrifugation
- Small radius on all corners to prevent sample precipitation and improve concentration
- DNase and RNase free

Cat. No	Well volume, µL	Well shape	Pack qty
12439307	350	Square	50
12449307	1,000	Square	50
11511963	2,000	Square	50
Accessory			
12419307	Pierceable sealing cap (EVA), square well, non-autoclavable		50

FISHERBRAND
SPOTLIGHT

The new Fisherbrand Aspiration Advantage System is ideal for the safe and precise removal of non-flammable liquids from microplates as well as other containers such as petri dishes, chamber slides and flasks.

Aspiration Advantage System
Cat. No 15348191

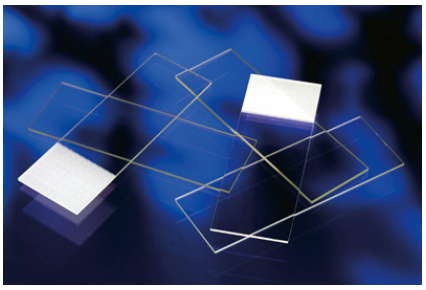
For further information on the products featured visit www.eu.fishersci.com/go/fisherbrand

MICROSCOPY

In addition to the range of Fisherbrand microscopes, you can also find slides, coverslips, slide dispensers, slide boxes, storage racks and slide mailers as part of the wider Fisherbrand microscopy range.

Microscope slides

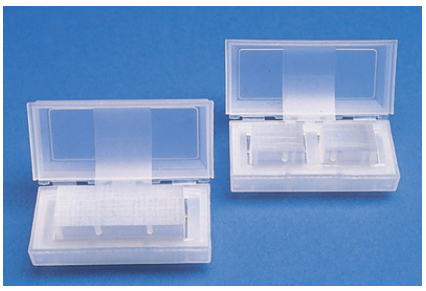
- Wrapped in cellophane for improved cleanliness
- Glass 76mm x 26mm
- Washed and polished 90° on all four sides
- Available plain or twin frosted



Cat. No	Thickness, mm	Pack qty
Plain		
12373118	0.8 to 1	50
12383118	1.0 to 1.2	50
12393118	1.2 to 1.5	50
Twin frost		
11562203	0.8 to 1	50
11572203	1.0 to 1.2	50

Cover slips

- Clear white borosilicate glass, packed in plastic boxes
- No. 1: 0.13mm to 0.17mm
- No. 1½: 0.16mm to 0.19mm



Cat. No	Dimensions, mm (*Diameter)	Pack qty
No. 1		
12323128	18 x 18	200
12333128	22 x 22	200
12343128	22 x 26	200
12353128	22 x 32	100
12363128	22 x 40	100
12373128	22 x 50	100
11338503	24 x 24	200
12393128	24 x 32	100
11348503	24 x 40	100
No. 1 Circles		
12313138	16*	200
12323138	19*	200
12333138	22*	200
No. 1½		
12343138	18 x 18	200
12353138	20 x 20	200
12363138	22 x 22	200
12383138	22 x 50	100
12393138	24 x 24	200
No. 1½ Circles		
12323148	16*	100
11507323	22*	100

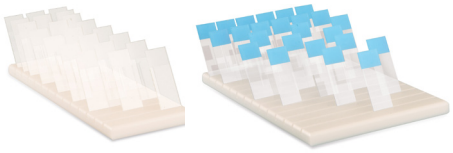
Microscope slide staining tray

- Stain, rinse and dry slides on a single working tray.
- Disposable microscope slide staining trays and lid (pack includes 4 base trays and 1 lid)
- Each tray holds up to eight slides and the deep well holds up to 38ml
- Compact size and recessed handles for easy transport
- Dark lid protects slides for light sensitive applications
- Disposable

Cat. No	Description	Colour	Dimensions [l x w x h], mm	Pack qty
11968004	Eight slide tray set	Black	305 x 127 x 29.5	4

Microscope slide holders

- Microscope slide holders for standard slides (76mm x 26mm)
- The 40 and 78 slide holders are ideal for drying slides and are made of chemically resistant polyethylene
- Strong, solid construction with rubber feet for bench top stability



Cat. No	Description	Dimensions [l x w x h], mm	Pack qty
11937984	40 slide holder	105 x 24 x 31	1
11947984	78 slide holder	299 x 178 x 21	1

Microscope slide boxes

- Constructed of durable polypropylene, slide boxes hold 25 to 100 standard slides
- Feet to maximise stability
- Range of durable plastic microscope slide boxes ideal for storage or transport.
- Stackable

Cat. No	Description	Lining	Capacity, slides	Colour	Pack qty
11314135	Push-fit lid	Cork	25	Blue	1
11324135	Push-fit lid	Cork	25	Green	1
11334135	Push-fit lid	Cork	25	Red	1
11354135	Push-fit lid	Cork	25	White	1
11731486	Thumb latch lock	Cork	50	Blue	1
11771486	Thumb latch lock	Cork	50	Red	1
11781486	Thumb latch lock	Cork	50	White	1
11314145	Nickel plated clasp	Cork	100	Blue	1
11324145	Nickel plated clasp	Cork	100	Green	1
11334145	Nickel plated clasp	Cork	100	Red	1
11344145	Nickel plated clasp	Cork	100	Yellow	1
11354145	Nickel plated clasp	Cork	100	White	1
11364145	Nickel plated clasp	Cork	100	Grey	1
11374145	Nickel plated clasp	Cork	100	Black	1
11741476	Hinged lid	Unlined	25	Blue	1
11751476	Hinged lid	Unlined	25	Red	1
11761476	Hinged lid	Unlined	25	White	1
11771476	Hinged lid	Unlined	100	Blue	1
11781476	Hinged lid	Unlined	100	Red	1
11791476	Hinged lid	Unlined	100	White	1
11701486	Nickel plated clasp	Foam lined	100	Blue	1
10428241	Nickel plated clasp	Foam lined	100	Green	1
11711486	Nickel plated clasp	Foam lined	100	Red	1
11394135	Nickel plated clasp	Foam lined	100	Yellow	1
11721486	Nickel plated clasp	Foam lined	100	White	1

Storage tray rack, microscope slide folders

- Unique rack allows the easy storage and retrieval of five 20 place slide folders (11703217)
- Stackable with folder identification clasps for reference and quick retrieval
- Ideal for room temperature or refrigerator storage of samples
- Temperature range: -10°C to 90°C
- Dimensions [l x w x h], mm 226 x 340 x 125

Cat. No	Description
11720594	Storage tray rack for microscope slide folders

Microscope slide mailer, polypropylene, two place

- Polypropylene protectors hold two standard slides securely
- Large, easy to secure snaps, provide safe storage for valuable slides
- Variety of colours for coding
- Disposable

Cat. No	Description	Dimensions (l x w x h)	Pack qty
11745088	Two place slide mailer, assorted colours (red, yellow, blue, purple, orange)	93 x 68 x 5	25
11755088	Two place slider mailer, natural	93 x 68 x 5	25

Microscope slide mailers, polypropylene, five place

- Polypropylene protectors hold five standard slides securely
- Inside wall features slotted channels to keep slides separated and to make removal easier
- Disposable

	Cat. No	Description	Dimensions, mm	Pack qty
1	**11714316**	Five place slide mailer, natural, side open	43 x 24 x 88	25
2	**11725515**	Five place side mailer, natural, end opening	43 x 24 x 88	25

FISHERBRAND SPOTLIGHT

Our featured upright biological microscope is an ideal way to introduce students to the world of microscopy. The high quality optics, made out of 100% optically coated glass, ensure a crisp and clear image. You can choose between the innovative cordless LED illumination, which produces no heat, or the standard tungsten lighting system.

Our featured stereo microscope is specially designed and developed for university teaching or research applications, or else for quick quality control management. Again, you can choose between the innovative cordless LED illumination or the standard tungsten systems.

The Fisherbrand series of research microscopes with LED illumination comes with the choice of three optical phase objectives and three optical heads. They are excellent general purpose microscopes ideal for university and research laboratory use.

Upright biological microscope
Cat. No 11702656

Stereo microscope
Cat. No 11702656

Research microscope, binocular
Cat. No 15398824

For further information on the products featured visit www.eu.fishersci.com/go/fisherbrand

PETRI DISHES

A range of high quality aseptic or sterile Petri dishes perfect for microbial or cell culture, or for sample collection, examination and storage.

Petri dishes, plastic, round

- Inner packs of 20

Cat. No	Ø x H, mm	Vent	Pack qty
Aseptic			
12694785	90 x 14.2	3	600
12664785	90 x 16.2	3	600
12644785	90 x 16.2	0	600
12654785	90 x 16.2	1	600
Sterile			
12604795	90 x 14.2	3	600
12674785	90 x 16.2	3	600
12684785	90 x 16.2	1	600

FISHERBRAND SPOTLIGHT

The Fisherbrand Counter-Pen™ is the perfect companion for Fisherbrand petri dishes - it is a combination marker and digital counter, providing an accurate and cost effective means of counting microbial colonies growing on your dishes.

Also, don't forget Fisher Bioreagents for your high quality agar, growth media and media supplements!

LB agar, Miller, 500g
Cat. No 10081163

Counter pen
Cat. No 11862710

For further information on the products featured visit www.eu.fishersci.com/go/fisherbrand

PIPETTING

Fisherbrand offers a diverse range of pipetting products, such as glass bulb pipettes for the accurate dispense of specified volumes of liquid, Pasteur and other transfer pipettes (available graduated or ungraduated), and serological pipettes, ideal for use with the new Fisherbrand motorised pipettor (refer to Fisherbrand Spotlight page 89). The range also includes an assortment of standard and speciality pipette tips, and reagent reservoirs for use with multichannel and dispensing pipettors.

Pipettes, bulb, soda lime glass, one mark, ISO 648, DIN 12691, class AS, certified

- Colour coded to BS 3996
- Blue ceramic graduations
- Batch certificate available

Cat. No	Capacity, mL	Tolerance, mL	Colour	Pack qty
15227935	1	0.008	Blue	2
15237935	2	0.010	Orange	2
15247935	5	0.015	White	2
15257935	10	0.020	Red	2
15267935	25	0.030	Blue	2
15277935	50	0.050	Red	2
15287935	100	0.080	Yellow	2

Pipettes, bulb, soda lime glass, one mark, BS 1583, Class B

- Colour coded to BS 3996
- Blue ceramic graduations

Cat. No	Capacity, mL	Tolerance, mL	Colour	Pack qty
11942168	1	±0.015	Blue	5
11952168	5	±0.03	White	5
11962168	10	±0.04	Red	5
11972168	25	±0.06	Blue	5
11982168	50	±0.10	Red	5

Pipettes, straight, soda lime glass, graduated, ISO 835, Class AS, Type 1, certified

- Blue ceramic graduations
- Batch certificate available

Cat. No	Capacity, mL	Graduation, mL	Pack qty
15277925	1	0.01	2
15287925	2	0.02	2
15297925	5	0.05	2
15207935	10	0.10	2
15217935	25	0.10	2

Pipettes, straight, soda lime glass, graduated, BS 700 ISO 835, Class B, Type 1 and Type 2

- Blue ceramic graduations

Cat. No	Capacity, mL	Graduations, mL	Tolerance, mL	Pack qty
Type 1				
11992168	1	0.01	±0.01	5
11902178	5	0.05	±0.05	5
11912178	10	0.1	±0.10	5
11922178	25	0.2	±0.20	5
Type 2				
11932178	5	0.05	±0.20	5
11942178	10	0.1	±0.10	5
11952178	25	0.2	±0.20	5

Pipettes, Pasteur, soda lime glass

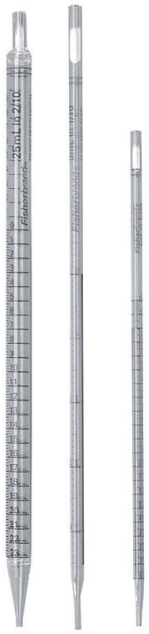
Cat. No	Length, mm	Type	Inner pack qty	Pack qty
11546963	150	Unplugged	250	1,000
11566963	230	Unplugged	250	1,000
11755108	270	Unplugged	250	1,000
11506973	150	Plugged	250	1,000
11765098	230	Plugged	250	1,000
11795098	270	Plugged	250	1,000

Pipettes, transfer

- Low density polyethylene
- Transparent
- Graduated or non-graduated
- Sterile options available
- Various packaging formats

	Cat. No	Description	Sterile	Length, mm	Drop volume, µL	Drop per mL	Pack qty
	13469118	Transfer pipette PE, 1mL	No	104	33	30	400
1	**13499108**	Transfer pipette PE, 1mL, graduated	No	150	33	30	500
2	**13439118**	Transfer pipette PE, 1mL, graduated, extended tip	No	150	33	30	500
3	**13489108**	Transfer pipette PE, 1mL, graduated	Yes	150	33	30	500
	13419118	Transfer pipette PE, 1mL, graduated, inner pack of 10	Yes	150	33	30	500
	13429118	Transfer pipette PE, 1mL, graduated, inner pack of 20	Yes	150	33	30	500
	13439108	Transfer pipette PE, 3mL, graduated	No	155	40	25	500
4	**13469108**	Transfer pipette PE, 3mL, graduated	Yes	155	40	25	500
	13479108	Transfer pipette PE, 3mL, graduated, inner pack of 10	Yes	155	40	25	500
	13409118	Transfer pipette PE, 3mL, graduated, inner pack of 20	Yes	155	40	25	500
5	**13459118**	Transfer pipette PE, 4mL, thin stem	No	150	33	30	500
6	**13459108**	Transfer pipette PE, 4mL	No	150	33	50	500
7	**13449108**	Transfer pipette PE, 7mL, extra long	No	300	50	20	100
8	**13449118**	Transfer pipette PE, 10mL, jumbo	No	170	56	18	200

Pipettes, serological, straight, polystyrene, individually wrapped



- Non-pyrogenic and non-cytotoxic warranty
- DNase and RNase free
- Supplied in paper/plastic packaging, or plastic/plastic packaging
- Sterilisation using gamma irradiation

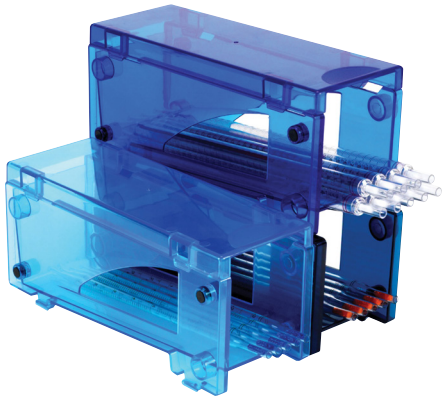
Cat. No	Capacity, mL	Graduations, mL	Colour	Inner pack qty	Pack qty
Pipettes individually wrapped plastic/plastic					
11819660	1	0.01	Yellow	1	1,000
11879650	2	0.01	Green	1	500
11829660	5	0.1	Blue	1	200
11839660	10	0.1	Orange	1	200
11517752	25	0.2	Red	1	200
11537752	50	0.5	Purple	1	100
Pipettes individually wrapped paper/plastic					
11849181	1	0.01	Yellow	1	1,000
11859181	2	0.01	Green	1	500
11869181	5	0.1	Blue	1	200
11879181	10	0.1	Orange	1	200
11839181	25	0.2	Red	1	200
11889181	50	0.5	Purple	1	100

Pipettes, serological, straight, polystyrene, bulk wrapped

- DNase and RNase free
- Sterilisation using gamma irradiation
- A black magnifer strip runs lengthwise along the pipette making the meniscus obvious and reducing reading errors
- The 5mL, 10mL and 50mL sizes have both ascending and descending graduations
- Tip design on the 50mL size increases the effect of surface tension to minimise dripping

Cat. No	Capacity, mL	Graduation, mL	Colour	Inner pack qty	Pack qty
11879660	1	0.01	Yellow	50	1,000
11889660	2	0.01	Green	50	500
11899660	5	0.1	Blue	50	500
11809670	10	0.1	Orange	25	500
11829670	50	0.5	Purple	25	100

Pipette rack, stackable



- Ideal for storing and organising serological pipettes
- Angled shelves store 1.0mL to 50mL pipettes within easy reach
- Click together to horizontally or lock in place with top connectors
- Protective lid to prevent dust build up
- Magnets on both sides of the unit connect securely and safely to metal surfaces
- Material: Acrylonitrile butadiene styrene (ABS)

Cat. No	Description	Dimensions [l x w x h], mm
11958004	Supplied as 3 compartments with 3 lids	286 x 301 x 127.5

Pipettor tips, standard, universal fit, SureOne™

- Non-sterile products - certified to be free of RNase/DNase and DNA
- Sterile products - e-beam sterile products are certified to be free of RNase/DNase, pyrogen, bioburden, PCR* inhibitors and endotoxins
- Fisherbrand™ SureOne™ pipettor tips are a comprehensive line of universal fit pipettor tips, available in a range of volumes, from 5µL to 10mL, in bulk, racked, sterile racked and the environmentally friendly reload system
- Compatible with most popular brands of pipettor, SureOne™ achieves optimal fit with Fisherbrand™ Elite™ pipettors

Cat. No	Volume, µL	Pack type	Colour	Inner pack qty	Pack qty
5µL nano micropoint tip, graduated at 2.5µL					
11987724	0.1 to 5	Bulk	Clear	-	1,000
11997724	0.1 to 5	Racked	Clear	96	960
11907734	0.1 to 5	Racked sterile	Clear	96	960
11997714	0.1 to 5	Filtered sterile reload	Clear	96	960
10µL micropoint tip, graduated at 2µL					
11933416	0.1 to 10	Bulk	Clear	-	1,000
11953416	0.1 to 10	Racked	Clear	96	960
10053014	0.1 to 10	Racked sterile	Clear	96	960
11973416	0.1 to 10	Reload	Clear	96	960
11903466	0.1 to 10	Filtered sterile	Clear	96	960
11907724	0.1 to 10	Filtered sterile reload	Clear	96	960
10µL extended length micropoint tip, graduated at 2.5µL					
11983416	0.1 to 10	Bulk	Clear	-	1,000
11588402	0.1 to 10	Racked	Clear	96	960
10527014	0.1 to 10	Racked sterile	Clear	96	960
11967714	0.1 to 10	Reload	Clear	96	960
11913466	0.1 to 10	Filtered sterile	Clear	96	960
11917724	0.1 to 10	Filtered sterile reload	Clear	96	960
20µL universal bevelled tip (use 11983456 20µL to 300µL empty rack box for reloads)					
11933426	2 to 20	Filtered sterile	Clear	96	960
11937724	2 to 20	Filtered sterile reload	Clear	96	960
100µL universal bevelled tip					
11953466	10 to 100	Filtered sterile	Clear	96	960
11947724	10 to 100	Filtered sterile reload	Clear	96	960
200µL universal bevelled tip					
11933426	1 to 200	Bulk	Clear	-	1,000
10678325	1 to 200	Racked	Clear	96	960
11963426	1 to 200	Racked sterile	Clear	96	960
11578412	1 to 200	Reload	Clear	96	960
10124314	1 to 200	Bulk	Yellow	-	1,000
11983426	1 to 200	Racked	Yellow	96	960
11903436	1 to 200	Racked sterile	Yellow	96	960
11913436	1 to 200	Reload	Yellow	96	960
200µL universal thin wall micropoint tip					
11538422	1 to 200	Bulk	Clear	-	1,000
11933436	1 to 200	Racked	Clear	96	960
11943436	1 to 200	Racked sterile	Clear	96	960
11953436	1 to 200	Reload	Clear	96	960
11963436	1 to 200	Bulk	Yellow	-	1,000
11973436	1 to 200	Racked	Yellow	96	960
11983436	1 to 200	Racked sterile	Yellow	96	960
11993436	1 to 200	Reload	Yellow	96	960
200µL universal bevelled tip, graduated at 10µL, 50µL and 100µL					
11943446	1 to 200	Bulk	Clear	-	1,000
11953446	1 to 200	Racked	Clear	96	960
11963446	1 to 200	Racked sterile	Clear	96	960
12922521	1 to 200	Reload	Clear	96	960
11903446	1 to 200	Bulk	Yellow	-	1,000
11913446	1 to 200	Racked	Yellow	96	960
11923446	1 to 200	Racked sterile	Yellow	96	960
11933446	1 to 200	Reload	Yellow	96	960
200µl universal micropiont tip, graduated at 10µL, 50µL and 100µL					
11957724	20 to 200	Filtered, sterile, reload	Clear	96	960
300µL universal bevelled/micropoint tip, graduated at 10µL, 50µL, 100µL and 200µL					
11993446	5 to 300 bevelled tip	Bulk	Clear	-	1,000
11903456	5 to 300 bevelled tip	Racked	Clear	96	960
10003414	5 to 300 micropoint tip	Racked sterile	Clear	96	960
11538442	5 to 300 micropoint tip	Reload	Clear	96	960
1,000µl universal micropoint tip, graduated at 100µL, 200µL, 500µL and 1,000µL					
11973466	100 to 1,000	Filtered sterile	Clear	96	960
11977724	100 to 1,000	Filtered sterile reload	Clear	96	960
1,250µL universal micropoint tip, graduated at 100µL, 200µL, 500µL and 1,000µL					
11548442	100 to 1,250	Bulk	Clear	-	1,000
11568442	100 to 1,250	Racked	Clear	96	960
10164694	100 to 1,250	Racked sterile	Clear	96	960
11588442	100 to 1,250	Reload	Clear	96	960
11963466	100 to 1,250	Filtered, bulk	Clear	-	1,000
10778535	100 to 1,250	Bulk	Blue	-	1,000
10537014	100 to 1,250	Racked	Blue	96	960
10492725	100 to 1,250	Racked sterile	Blue	96	960
11963456	100 to 1,250	Reload	Blue	96	960

Pipettor tips, standard, universal fit, SureOne™, continued

Cat. No	Volume, µL	Pack type	Colour	Description	Pack qty
2,500µL tips					
11987744	250 to 2,500	Bulk	Clear	Fits with Rainin EDP2™	500
11997744	250 to 2,500	Bulk	Clear	Fits with Eppendorf™ and Biohit style pipettors	500
5,000µL tips					
11648138	1,000 to 5,000	Bulk	Clear	Fits with Eppendorf™ and Biohit style pipettors	250
11937754	1,000 to 5,000	Bulk	Clear	Fits with Fisherbrand™ Elite and Finnpipette™ style pipettors	250
10,000µL tips					
11947754	1,000 to 10,000	Bulk	Clear	Fits with Gilson style pipettors	200
11957754	1,000 to 10,000	Bulk	Clear	Fits with Fisherbrand™ Elite and Finnpipette™ style pipettors	100
Accessories					
Cat. No	**Description**				**Pack qty**
11973456	SureOne™ empty rack boxes for reloads of 10µL to 20µL tips				10
11983456	SureOne™ empty rack boxes for reloads of 20µL to 300µL tips				10
11993456	SureOne™ empty rack boxes for reloads of 1,250µL tips				10

SureOne™ speciality tips

- Fisherbrand SureOne™ speciality pipettor tips include gel loading, genomic and extended length tips, in bulk, racked and sterile racked packaging
- SureOne™ universal fit, speciality pipettor tips are compatible with most popular brands of pipettor (optimal fit with Fisherbrand Elite™ pipettor)
- Non-sterile products - certified to be free of RNase/DNase and DNA
- Sterile products - e-beam sterile products are certified to be free of RNase/DNase, pyrogen, bioburden, PCR* inhibitors and endotoxins

	Cat. No	Volume, µL	Pack type	Filtered	Sterile	Inner pack qty	pack qty
1	**Gel loading tip, outer diameter 0.58mm**						
	11927734	1 to 200	Bulk	No	No	-	1,000
	11937734	1 to 200	Racked	No	No	96	960
	11367801	1 to 200	Racked	No	Yes	96	960
	11967734	1 to 200	Bulk	No	No	204	1,020
2	**Extended length, 90mm long**						
	11977734	1 to 200	Bulk	No	No	-	1,000
	11997734	2 to 20	Racked	Yes	Yes	204	1,632
	11907744	10 to 100	Racked	Yes	Yes	204	1,632
3	**Large orifice tip, inner diameter 1.5mm**						
	11927744	1 to 200	Racked	No	No	96	960
	11937744	1 to 200	Racked	No	Yes	96	960
	11947744	20 to 200	Racked	Yes	Yes	96	960
	11957744	100 to 1,000	Racked	No	No	96	960
	11967744	100 to 1,000	Racked	No	Yes	96	960
	11977744	100 to 1,000	Racked	Yes	Yes	96	960

*Polymerase Chain Reaction (PCR) is a process covered by patents owned by Hoffmann-La Roche

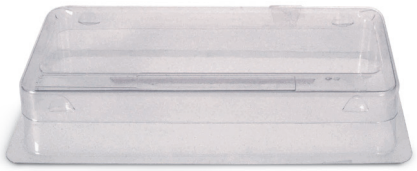
Reagent reservoir, dual solution

- For use with multichannel pipettors.
- Polypropylene solution/reagent reservoir that has a standard 50mL basin one side and 12 individual 5mL basins on the other. Wells are angled both downward and outward to allow maximum recovery of liquids. Imprinted indices identify samples and a loose lid helps prevent evaporation or contamination. Packs contain reservoirs and lids.

Cat. No	Dimensions [l x w x h], mm	Pack qty
11978084	Reagent reservoir, 1 x 50mL and 12 x 5mL basins	25

Reagent reservoirs, PVC

Cat. No	Capacity, mL	Material	Sterile	Pack qty
11908495	50	PVC	No	100



Reagent reservoirs, disposable

- Disposable reagent reservoirs for use with multichannel pipettors
- Can hold up to 100mL
- Clear PVC or white polystyrene
- Available in sterile or non-sterile packs

Cat. No	Description	Inner pack qty	Pack qty
12369175	50mL, PVC, clear, non-sterile	-	100
12399175	100mL, PS, natural, sterile	5	200

Dispensing tips

Cat. No	Capacity, mL	Sterile	Pack qty
15163646	0.1	N	100
15113656	0.1	Y	100
15133646	0.5	N	100
15123656	0.5	Y	100
15153646	1.25	N	100
15143656	1.25	Y	100
15173646	2.5	N	100
15133656	2.5	Y	100
15143646	5.0	N	100
15153656	5.0	Y	100
15193646	12.5	N	100
15173656	12.5	Y	100
15163656	25.0	Y	25
15103656	50	N	25
15183656	50	Y	25

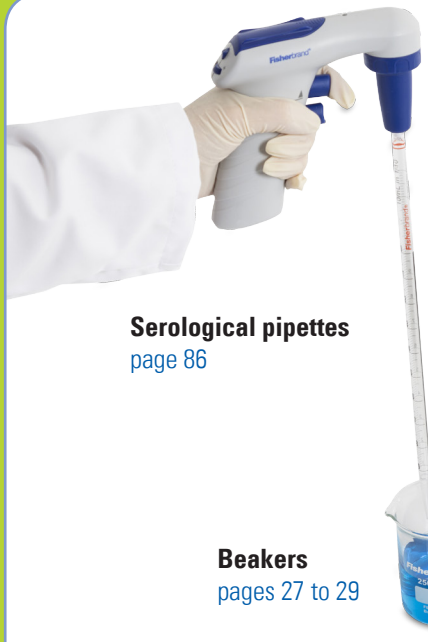
Accessories

Cat. No	Description	Sterile	Pack qty
15193656	Adapter for dispenser tip 25/50 mL	N	10
15103666	Adapter for dispenser tip 25/50 mL	Y	1

FISHERBRAND SPOTLIGHT

The Fisherbrand Elite™ pipettor kit will enable you to achieve the best results in your lab with exceptional ergonomics. This kit consolidates four of the more popular pipettor volumes with the Elite pipettor stand, combining the convenience of using a single ordering code for multiple items and providing up to 20% savings compared to the purchase of the individual components.

To further complement the Fisherbrand liquid handling portfolio, the new motorised pipette filler is also available. It has been ergonomically designed and is suitable for glass and plastic pipettes from 0.1mL to 200mL.



Motorised pipette filler
Cat. No 15249805

Serological pipettes
page 86

Beakers
pages 27 to 29

Elite™ pipettor kit
Cat. No 15268638

Pipette tips
pages 87 to 88

For further information on the products featured visit www.eu.fishersci.com/go/fisherbrand

SAMPLING AND STORAGE

Collect and store your samples with our range of Fisherbrand scoops, samplers and storage containers, and keep your workplace tidy with Fisherbrand laboratory dispensers and disposal bins.

Aluminium foil and dispenser

- Compact, easily transported foil dispenser
- Stable with non-slip base
- Safety blade is integrated into the cover

	Foil dispenser	Description	Dimensions	Pack qty
1	**11957994**	Foil dispenser, ABS, blue	190mm x 100mm x 120mm (w x d x h)	1
	Foil rolls	**Description**	**Dimensions**	
2	**11967994**	Aluminium foil for foil dispenser	102mm x 153m (w x l)	1
	11977994	Aluminium foil for foil dispenser	153mm x 153m (w x l)	1

Containers, jars, polypropylene, translucent, heavy weight

- Ideal for general laboratory applications.
- Excellent chemical resistance
- Polypropylene screw closure - leakproof
- Autoclavable with cap loosened

Cat. No	Capacity, mL	Cap size, mm	Height, mm	O.D., mm	Pack qty
11523242	30	33/R3	45	36	10
11533242	60	33/R3	80	36	10
11543242	125	38/R3	93	50	10
11553242	150	58/R3	68	60	10
11563242	250	58/R3	114	61	10
11573242	500	58/R3	140	76	10
11583242	1,000	70/R3	200	90	5

Containers, jars, PTFE

- Isostatically moulded from pure PTFE with thick wall construction, smooth internal finish and screw cap.
- Stackable

Cat. No	Capacity, mL	Height, mm	Diameter, mm	Pack qty
10313502	15	34	34	1
10323502	30	62	34	1
10140342	60	46	60	1
10291952	120	62	72	1
10199901	240	100	72	1
10724143	360	95	90	1
10393882	480	125	90	1
10363602	1,000	160	110	

Containers, polyethylene with LDPE lid, specimen

- Designed for collection, transport and storage of liquid and dry specimens and samples.
- Moulded of autoclavable high quality HDPE, with thick walls
- Inert to most chemicals including formaldehyde, weak acids and all bases
- Resist freezing and boiling
- Easy to write on with pen or pencil
- Stackable for compact storage
- Come with LDPE lids (non-autoclavable)

Cat. No	Style	Capacity, mL	Colour	Pack qty
12029977	Short/wide	120	Translucent	300
11709388	Tall/thin	120	Translucent	100
12049977	Short/wide	240	Translucent	100
11719388	Short/wide	240	White	100
11974375	Tall/thin	240	Translucent	100
12029957	Tall/thin	240	White	100
12089977	Multipurpose	473	Translucent	100
11994375	Multipurpose	473	White	100
12089947	Multipurpose	1,100	Translucent	100
12009957	Multipurpose	1,900	Translucent	50
12009967	Multipurpose	1,900	White	50
12039957	Multipurpose	2,500	Translucent	25
12069967	Multipurpose	2,500	White	25
12099957	Multipurpose	5,100	Translucent	10
12089967	Multipurpose	5,100	White	10

Containers, specimen, polypropylene, autoclavable

- For use with liquid, semi-solid and solid samples
- Inert to most chemicals
- Graduated
- With or without non-autoclavable polyethylene snap-on lid
- Sterile containers with lids are individually wrapped
- Non-sterile and sterile containers without lids are bulk packed

Cat. No	Lid	Sterile, Yes /No	Colour	Capacity, mL	Pack qty
11779378	Yes	Yes	Translucent	130	500
11769378	No	Yes	Translucent	130	500
11964395	No	No	Translucent	130	500
11799378	Yes	Yes	Translucent	240	500
11789378	Yes	Yes	Translucent	240	500
11984375	No	No	Translucent	240	500

Accessories

Cat. No	Description	Sterile, Yes /No	Pack qty
11924395	Lids for specimen containers	Yes	500
11974385	Lids for specimen containers	No	500

Containers, storage, Tubby™

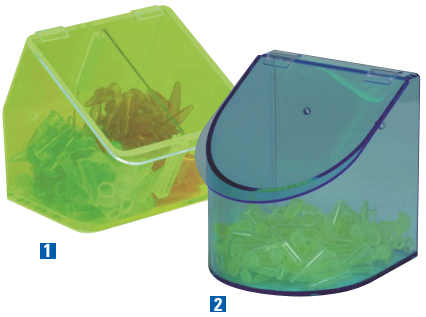
- Stackable storage containers to help with laboratory organisation or transportation of products
- Removable dividers
- For keeping gloves, tubes, tips, pipettes and other small items organised and tidy
- Stackable and proportionately sized to utilise space efficiently

Cat. No	Description	Dimensions, (w x d x h), mm	Pack qty
11938014	Tubby™, with 5 tubs, 5 lids and 15 dividers	330 x 200 x 115	5

Dispensing bins, bench top

- Ideal for holding many different laboratory items including micro-centrifuge tubes
- Ergonomically designed with large, angled openings and oversized lip
- Lid remains open when tilted back
- Green bin includes removable divider
- With non-skid rubber feet and pre-drilled holes for wall mounting (hardware included)

	Cat. No	Description	Colour	Dimensions, (w x d x h), mm	Pack qty
1	**11304065**	Benchtop dispensing bin, with removable divider	Neon green	180 x 155 x 165	1
2	**11314065**	Benchtop dispensing bin	Neon blue	155 x 155 170	1



Dispenser, ear plugs, Clearly Safe™

- Translucent acrylic dispenser for ear plugs
- Flip top lid for easy refilling and tilt open bottom lid for dispensing, which remain in place whilst the unit is in use
- Holds approximately 200 pairs of foam earplugs
- Can be set on a worktop or wall mounted (screws provided)

Cat. No	Dimensions [w x d x h], mm	Pack qty
11507473	203 x 203 x 406	1

Dispensers, for Parafilm™

- Stores, dispenses and cuts Parafilm™ tape and labels

	Cat. No	Description	Dimensions, (w x d x h), mm	Pack qty
1	**11937994**	Acrylic dispenser	119 x 168 x 175	1
2	**11350040**	ABS dispenser, blue	171 x 120 x 144	1
	11865993	ABS dispenser, green	171 x 120 x 144	1
	11875993	ABS dispenser, red	171 x 120 x 144	1

Dispenser, safety, Clearly Safe™ 3-in-1

- Three in one acrylic dispenser provides easy access to a variety of safety products
- The safety glass dispenser holds approximately 20 pairs of glasses and the ear plug dispenser approximately 50 to 100 pairs of foam ear plugs
- The dispenser can be positioned on a worktop or wall mounted (screws provided)

Cat. No	Dimensions [w x d x h], mm
11927984	406 x 203 x 406

Dispensers, safety spectacles, Clearly Safe™

- Easy access translucent dispenser
- Flip open fill from top, with tilt-open bottom for ease of use
- Can be set on counter top or wall mounted

Cat. No	Description
11803470	Spectacles dispenser, holds 4 to 6 pairs, 227mm x 162mm x 156mm
11893460	Spectacles dispenser, holds approximately 20 pairs, 203mm x 203mm x 406mm

Glove box holder, anti-microbial

- Ideal for use in cleanroom, hospital and microbiological work areas
- Infused with Microban™ to prevent growth of moulds and bacteria
- Manufactured from high impact, durable polystyrene which is resistant to harsh cleaning solutions
- Compatible with many different glove manufacturers standard 100 pack glove boxes
- Modular design, allows horizontal stacking
- Screws and anchors included

Cat. No	Description	Dimensions, (w x d x h), mm	Pack qty
11710644	Glove box holders, anti-microbial	254 x 156 x 97	1

Glove box holders, acrylic

- Wall mounted, clear acrylic holders for easy dispensing of gloves
- Each holder includes a polyester foam insert to securely hold a range of glove box sizes
- Fit ensures easy removal of gloves
- Available in three sizes
- Wall mount screws included

Cat. No	Description	Dimensions [w x d x h], mm	Pack qty
11897102	1 box holder	141 x 260 x 110	1
11807112	2 box holder	295 x 260 x 110	1
11817112	3 box holder	295 x 385 x 110	1

Label station, Tough-Tags™

- Portable Tough-Tags™ station holds up to six standard size boxes of Tough-Tags™, Cryo-Babies™, Tough-Spots™ and TeenyTough-Spots
- Just drop the box into the station and feed the paper through the slot
- The acrylic station includes a writing surface, cutting edge and non-slip feet for easy dispensing. Counter sunk holes allow the unit to be wall mounted if required
- Tags sold separately (illustrated for display purposes only)

Cat. No	Description	Pack qty
11947994	Tough-Tags™ station	1

Sample dippers, PTFE

- PTFE sampling container with a detachable 600mm long steel shaft encapsulated in PTFE

Cat. No	Capacity, mL	Diameter, mm	Pack qty
10156620	100	54	1
10369690	250	66	1
10536522	500	80	1
10126670	1,000	100	1

Scoops, polypropylene

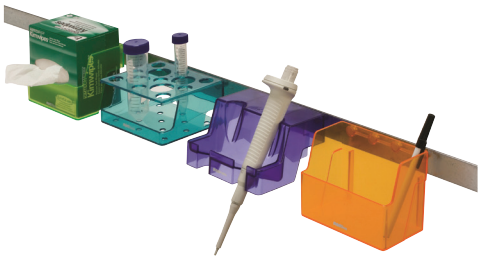
Cat. No	Capacity, mL	Length, overall, mm	Pack qty
11567852	25	135	5
11577852	50	160	5
11587852	100	200	5
11597852	250	260	1
11507862	500	315	1
11517862	1,000	385	1

Storage bin, bench top

- Workstation storage bin ideal for keeping most commonly used disposables in one location
- Clear acrylic unit has room to store boxes of gloves, Parafilm™, tubes, tips and other small laboratory and office items

Cat. No	Description	Dimensions [w x d x h], mm	Pack qty
11927994	Bench top storage bin	265 x 137 x 440	1

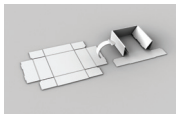
Storage boxes, magnetic



- Each rack is made of robust ABS plastic in a bright translucent colour
- Racks feature four powerful magnets for a secure hold on most metal surfaces
- MagRack™ holds four 50mL tubes and nine 15mL tubes
- MagWipe™ holds a 110mm x 210mm wipe box
- MagPette™ holds two pipettors and fits most pipettor brands
- MagBox™ holds miscellaneous accessories

Cat. No	Description	Colour	Dimensions, (w x d x h), mm	Pack qty
11942581	Complete storage system, includes MagRack™, MagWipe™, MagPette™ and MagBox™	Assorted	522 x 393 x 102	4
11982581	MagRack™ for 15mL and 50mL conical tubes	Blue	131 x 112 x 64	1
11992581	MagWipe™ tissue box holder	Green	130 x 91 x 98	1
11932581	MagPette™ pipettor holder	Purple	131 x 112 x 76	1
11922591	MagBox™ storage box	Orange	130 x 78 x 102	1

Storage tray, polypropylene, sample



- Constructed from corrugated polypropylene
- Moisture resistant, significantly reducing the chance of mold
- Lightweight and strudy to hold up to 24 full specimen containers
- Stackable with other tracys
- Removable dividers allow outer shell to be used for storage or transport of laboratory products
- Supplied flat-packed
- Pack includes: 10 trays and 10 dividers
- Disposable

Cat. No	Wells	Well diameter, mm	Dimensions, mm (l x w x h)	Colour	Pack qty
15376548	24	58	406 x 260 x 89	White	10

Storage units, bench top

- Made from 3mm thick, clear acrylic, each container has hinged lids for rapid filling and dispensing

Cat. No	Dimensions, (w x d x h), mm	No. of compartments	Pack qty
11764834	184 x 194 x 232	1	1
11774834	150 x 177 x 368	2	1
11907994	210 x 160 x 210	3	1
11784834	287 x 170 x 217	4	1

Tube rack storage, acrylic

- Tube rack storage for 80 well microtube racks
- Holds up to eight 80 well microtube racks filled with either 1.5mL or 2.0mL microtubes
- Plenty of room to slide the racks in and out

Cat. No	Description	Dimensions, (w x d x h), mm	Pack qty
11708214	Tube rack storage vertical	236 x 157 x 234	1
11710055	Tube rack storage horizontal	310 x 236 x 122	1

Transport box, polycarbonate

- Ideal for transporting biological and clinical samples, as well as instruments and products that you want to keep clean and dry under testing environmental conditions
- Polycarbonate construction
- Available in three colours
- Silicone water-tight seal and three lid clasps provide secure closure
- Carry handle folds neatly into body space allowing the units to be stacked
- Lid opens a full 180°, allowing total access to contents and making it easier to clean
- Accommodates 13mm and 16mm tubes in a 72 place Delrin rack or similar sized rack
- Use the separators provided to create your own compartment sizes, or use empty to transport larger products and equipment
- Autoclavable

Cat. No	Dimensions, (w x d x h), mm	Colour	Pack qty
15165564	380 x 196 x 160	Clear with blue handle	1
15175564	380 x 196 x 160	Red with red handle	1
15155564	380 x 196 x 160	Yellow with yellow handle	1

Trays, utility

- Lightweight solution for transporting tubes and smaller items

Cat.No	Description	Pack qty
11740634	Utility tray with 13mm Delrin™ rack	1
11750634	Utility tray with 16mm Delrin™ rack	1

FISHERBRAND SPOTLIGHT

Ideal for a wide variety of fluid handling applications, the Fisherbrand range of peristaltic pumps offers superior performance with precision and ease of use.

Compact peristaltic pump, two channels, flow rate 0.8 to 14mL/min, 20 to 100rpm
Cat. No 15367547

Dispensing tubing pump, flow rate 14 to 4,000mL/min, 4 to 4,000rpm
Cat. No 15307557

For further information on the products featured visit www.eu.fishersci.com/go/fisherbrand

SYRINGES

Syringes are used in the laboratory for measuring and transferring liquids. They are used with syringe filters (refer to product spotlight below) for a broad range of applications including purification of tissue culture solutions and buffers and filtering of protein solutions and solvents.

Syringes, plastic disposable

Cat. No	Description	Capacity, mL	Pack qty
12981021	Luer-Lock	2	100
12901031	Luer-Lock	5	100
12921031	Luer-Lock	10	100
12941031	Luer-Lock	20	100
12991021	Luer-Slip	2	100
12911031	Luer-Slip	5	100
12931031	Luer-Slip	10	100
12951031	Luer-Slip	20	100

FISHERBRAND SPOTLIGHT

With a wide range of membranes, pore sizes, housing diameters, and both sterile and non-sterile versions, the new Fisherbrand syringe filters make it easy to select the optimum filter whatever your application.

- High sample throughput
- Sterile and non-sterile options
- Polypropylene housing - strong and chemically resistant
- Suitable for a broad range of applications

Fisherbrand membrane	Protein binding	Hydrophilic/hydrophobic	Chemical resistance	Applications
Hydrophilic PTFE	Low	Hydrophilic	High	Purification of HPLC organic and solvent/aqueous solutions
PES	Low	Hydrophilic	Low/medium	Purification of tissue culture solutions, buffers
PVDF	Low	Hydrophilic	Medium	Filtration of protein solutions
Hydrophobic PTFE	Low	Hydrophobic	High	Filtration of solvents
Nylon	Medium	Hydrophilic	Medium	Filtration of aqueous and solvent/aqueous mixtures

Cat. No	Diameter, mm	Membrane material	Pore size, µm	Sterile	Pack qty
15206869	33	PES	0.2	Yes	50
15216869	33	PES	0.45	Yes	50
15181489	25	Hydrophilic PTFE	0.2	No	50
15101499	25	Hydrophilic PTFE	0.45	No	50
15121499	25	Nylon	0.2	No	50
15131499	25	Nylon	0.45	No	50
15141499	25	PTFE	0.2	No	50
15151499	25	PTFE	0.45	No	50
15161499	13	PTFE	0.2	No	100
15171499	13	PTFE	0.45	No	100
15181499	33	PVDF	0.2	Yes	50
15191499	33	PVDF	0.45	Yes	50

For further information on the products featured visit www.eu.fishersci.com/go/fisherbrand

TUBES

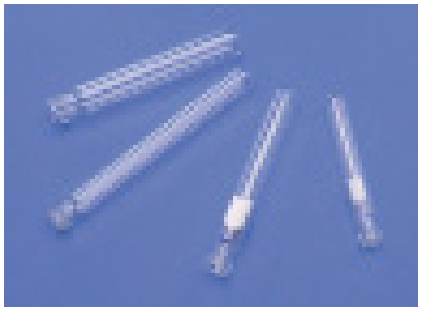
See below for an extensive range of quality Fisherbrand test and centrifuge tubes, PCR and other microtubes, plus a comprehensive choice of tube caps and closures. Borosilicate glass is able to tolerate extremes of heat and cold (see 'Types of Glass' on pages 7) and as such tubes made from this material are recommended for any process involving the application of heat. Soda lime tubes are more suitable for general laboratory use only.

Test tubes, borosilicate glass, round bottom, screw thread with polypropylene caps, disposable

- Ideal for tissue culture, bacteriology, clinical chemistry, blood typing and cross matching procedures
- With natural, linerless, polypropylene screw cap and marking spot
- Tubes packed in shrink wrapped trays with caps packed separately

Cat. No	Diameter [external], mm	Length, mm	GPI thread finish	Pack qty
11517413	13	100	13-415	1,000
11527413	16	100	15-415	1,000
10421541	16	125	15-415	1,000
11557413	16	150	15-415	1,000
11567413	20	125	18-415	500
11577413	20	150	18-415	500

Test tubes, borosilicate glass, round bottom, screw thread without caps, disposable



- Ideal for tissue culture, bacteriology, clinical chemistry, blood typing and cross matching procedures
- Available with or without marking spot
- Tubes packed in shrink wrapped trays.

Cat. No	Diameter [external], mm	Length, mm	GPI thread finish	Pack qty
With marking spot				
11587413	13	100	13-415	1,000
12327279	16	100	15-415	1,000
11527423	16	125	15-415	1,000
11537423	16	150	15-415	1,000
11547423	20	125	18-415	500
11557423	20	150	18-415	500
Without marking spot				
11567423	13	100	13-415	1,000
11577423	16	150	15-415	1,000
11587423	20	150	18-415	500

Test tubes, borosilicate glass, light walled, rimless

- Premium quality tubes with sturdy, uniform bottoms and consistent lengths
- The 10mm x 75mm and 12mm x 75mm sizes are suitable for cell washing procedures
- The 6mm x 50mm size is often referred to as a 'Durham tube'
- Approximate wall thickness is 0.6mm
- 10022253* is manufactured from flint glass

Cat. No	Diameter [external], mm	Length, mm	Pack qty
10022253*	6	50	1,000
12347279	10	75	1,000
11517403	12	75	1,000
11527403	13	100	1,000
11537403	15	85	1,000
11547403	16	100	1,000
11557403	16	125	1,000
11577403	16	150	1,000
11587403	18	150	500
11597403	20	150	500
11507413	25	150	500

Test tubes, soda lime glass

- Soda lime glass test tubes
- All ISO 4142 (except 11912218, 11922218 and 11932218)

Cat. No	Length, mm	Diameter [external], mm	Wall thickness, mm	Pack qty
Light walled, rimmed				
11922188	75	10	0.60	100
11932188	75	12	0.60	100
11942188	100	12	0.60	100
11952188	125	16	0.60	100
11962188	150	16	0.60	100
11972188	150	18	0.80	100
11962178	150	24	1.0	50
Light walled, "Durham" rimless				
11912218	30	6.5	0.65	300
11922218	35	8.0	0.65	300
11932218	50	7.5	0.65	1,000
Medium walled, rimless				
11982188	75	10	1.0	100
11992188	75	12	1.0	100
12961031	100	12	1.0	100
11902198	125	16	1.0	100
11912198	150	16	1.0	100
11922198	150	18	1.0	100
11972178	150	24	1.2	50

Test tubes, borosilicate glass

- Borosilicate glass test tubes, grade 3.3
- All ISO 4142

Cat. No	Length, mm	Diameter [external], mm	Wall thickness, mm	Pack qty
Medium walled, rimmed, ISO 4142:2002				
11932198	75	10	1.0	100
11942198	75	12	1.0	100
11952198	100	12	1.0	100
11962198	100	16	1.2	100
11972198	125	16	1.2	100
11982198	150	18	1.2	100
11992198	150	24	1.2	100
11982178	150	18	1.2	50
Medium walled, rimless, ISO 4142:2002				
11912208	75	10	1.0	100
11922208	75	12	1.0	100
11932208	100	12	1.0	100
11942208	100	16	1.2	100
11952208	125	16	1.2	100
12088099	150	16	1.2	100
11972208	150	18	1.2	100
11992178	150	24	1.2	50

Closures, for rimless test tubes, Bacti-Caps™

- Bacti-Caps™ provide a firm, positive culture tube closure allowing a controlled gas interchange, thus proving a more practical alternative to cotton wool plugs
- Suitable for all standard test tube sizes, they fit rimless and plastic tubes with an outside diameter of 13mm, 16mm, 19mm, 25mm and 38mm
- The three flexible fins moulded on the inner wall of each cap ensure a positive fit even when minor variations in tube size occur. Bacti-Caps™ are made from chemically resistant virgin plastic so they are unaffected by culture media, most acids, alkalis, alcohols and esters
- Colour coded

Cat. No	Colour	Pack qty
To fit tube with outer diameter 13mm		
11507143	Black	100
11517143	White	100
11527143	Red	100
11537143	Yellow	100
11547143	Blue	100
11557143	Green	100
To fit tube with outer diameter 16mm		
11567143	Black	100
11577143	White	100
11587143	Red	100
11597143	Yellow	100
11507153	Blue	100
11517153	Green	100
To fit tube with outer diameter 19mm		
11527153	Black	100
11537153	White	100
11547153	Red	100
11552652	Yellow	100
11562652	Blue	100
11572652	Green	100
To fit tube with outer diameter 25mm		
11582652	Black	100
11592652	White	100
11502662	Red	100
11512662	Yellow	100
11522662	Blue	100
11532662	Green	100
To fit tube with outer diameter 38mm		
11542662	Natural	10

Caps, phenolic, rubber liner, for screw thread test tubes

- Made of a special phenolic material (wood filled) and very resistant to the effects of temperature and steam encountered in autoclaving
- A cemented-in rubber liner is provided, and the cement used has been selected to retain its adhesive properties during autoclaving.

Cat. No	GPI thread finish	Pack qty
11547133	13-415	1,000
12337279	15-415	1,000
11567133	18-415	1,000

Caps, polypropylene, linerless, for screw thread test tubes

- One-piece construction with a unique inner sealing ring.

Cat. No	GPI thread finish	Pack qty
11577133	13-415	1,000
11587133	15-415	1,000
11597133	18-415	500

Caps, polypropylene, welded PTFE/silicone liner, for screw thread test tubes

- Ideal for repeated autoclaving.
- The welded liner eliminates glue contamination.

Cat. No	GPI thread finish	Pack qty
11522672	13-415	288
11532672	15-415	288
11542672	18-415	288

Tubes, microcentrifuge, PCR*

- Polypropylene tubes with attached caps
- Available with flat or dome caps
- Compatible with standard 0.2mL or 0.5mL thermal cycler blocks
- Thin walled
- DNase and RNase free

Cat. No	Description	Volume, mL	Pack qty
11889241	Tubes, flat capped	0.2	1,000
12194142	Tubes, flat capped	0.5	1,000
11899221	Tubes, dome capped	0.2	1,000
11849231	8 tube strip, dome capped	0.25	250
12179770	8 tube strip, flat capped	0.25	250
11849241	8 tube strip, without caps	0.25	250
Accessories			
11849251	8 strip, flat caps		250
11859251	8 strip, domed caps		250

*Polymerase Chain Reaction (PCR) is a process covered by patents owned by Hoffmann-La Roche

Tubes, microtube

1

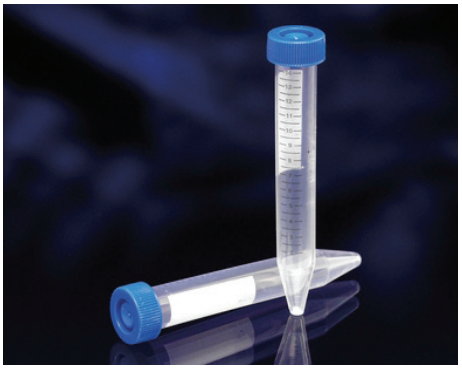
2

- Use between -80°C to 120°C
- Flat cap
- Withstand speeds up to 30,000xg
- DNase, RNase free
- Polypropylene
- Graduation moulded
- Autoclavable
- Non-sterile

	Cat. No	Capacity, mL	Colour	Dia. x height, mm	Max. rcf (xg)	Pack qty
	Graduated microtube					
1	**11916955**	0.6	Natural	8 x 30	30,000	500
	11926955	1.5	Natural	11 x 40	26,000	500
	11393613	2.0	Natural	11 x 40	25,000	500
	Graduated safelock microtube					
2	**11976955**	0.6	Natural	-	30,000	1,000
	11706467	1.5	Natural	-	26,000	500
	11966955	1.5	Mix	-	26,000	500
	11956955	2.0	Natural	-	25,000	500
	Graduated low binding microtube					
3	**11996955**	0.6	Natural	10 x 30	-	500
	11986955	1.5	Natural	13 x 40	-	250
	11906965	2.0	Natural	13 x 40	-	250

3

Tubes, centrifuge, 15mL and 50mL



- 15mL and 50mL capacity
- Available in PP and PET
- Black graduation
- White marking area
- Flat cap and plug seal cap
- Gamma irradiation sterilisation
- Bulk or rack version

Bulk

Cap flat top	Cap plug seal	Capacity, mL	Max. rcf, xg	Material	Dia. x H, mm	Sterile	Inner pack qty	Pack qty
11755075	**11765075**	15	6,000	PP	17 x 119	Yes	25	500
11512303	**11809650**	50	9,400	PP	29 x 114	Yes	25	500
-	**11829650**	50	9,400	PP	29 x 114	No	25	500

Rack

Cap flat top	Cap plug seal	Capacity, mL	Max. rcf, xg	Material	Dia. x H, mm	Sterile	Inner pack qty	Pack qty
-	**11879640**	15	1,800	PET	17 x 119	Yes	50	500
11849650	**11889640**	15	6,000	PP	17 x 119	Yes	50	500
-	**11839650**	50	1,800	PET	29 x 114	Yes	50	500
11819650	**11899640**	50	9,400	PP	29 x 117	Yes	50	500

FISHERBRAND SPOTLIGHT

For the mixing of small volumes of liquids, the space-saving Fisherbrand mini vortexer and the unique infrared sensing system of the Wizard vortex mixer are essentials for any lab.

Elsewhere in your lab, Fisherbrand cell strainers provide a fast, simple alternative to gauze filtration when dissociating cells from clumps or primary tissues. Produces more uniform single cell suspensions. Available in three mesh sizes: 40µm, 70µm and 100µm. Sterile and individually packed.

Wizard Vorter Mixer
Cat. No 11746744

Mini Vortexer
Cat. No 15212985

Cell Strainers
Cat. No 11587522, 40µm
Cat. No 11597522, 70µm
Cat. No 11517532, 100µm

Tube racks
pages 102 to 107

Mini Vortexer, variable speed
Cat. No 15494960

For further information on the products featured visit www.eu.fishersci.com/go/fisherbrand

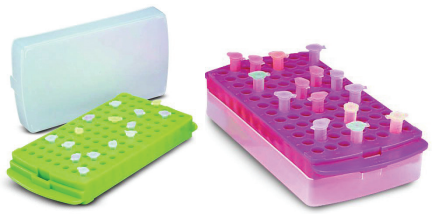
TUBE RACKS

Designed not only to hold your tubes but also to add colour to any lab!

Tube racks, microtubes, 96 well, assorted colours

- Reversible: 0.5mL or 1.5 to 2mL microtubes
- Alphanumeric coding
- With clear cover to protect the tubes and allow stacking of several racks
- Dimension (l x w x h), mm: 246 x 121 x 50

Cat. No	Description	Pack qty
11728174	96 well reversible rack, assorted colours (blue, green, pink, yellow and orange)	5
11738174	96 well reversible rack, natural	5
11958014	96 well reversible rack, blue	5
11968014	96 well reversible rack, green	5
11748174	96 well reversible rack, pink	5
11978014	96 well reversible rack, yellow	5



Tube racks, microcentrifuge, polypropylene, PCR*

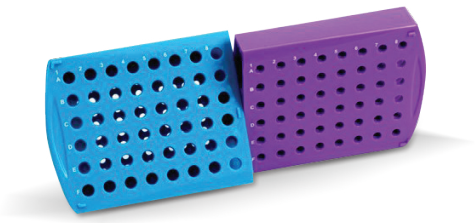
- Sturdy polypropylene racks ideal for pre- or post-PCR* sampling applications
- With removable hinged lid accommodates individual 0.2mL tubes or strips of 8 or 12 tubes
- Tube wells are easily identified with imprinted numbers and letters
- Dimensions (l x w x h), mm: 130 x 98 x 33
- Autoclavable

Cat. No	Description	Pack qty
11710344	96 well PCR* rack, assorted colours (blue, green, pink, yellow and orange)	5
11527593	96 well PCR* rack, natural	5
11948074	96 well PCR* rack, green	5
11958074	96 well PCR* rack, blue	5

Tube rack, Rota-Rack Duo, PCR*

- Rotating rack holds 48 x 0.2mL, 0.5mL and 1.5mL PCR tubes
- Polypropylene with imprinted alphanumeric grid aids tube retrieval
- Dimensions (l x w x h), mm: 296 x 118 x 34

Cat. No	Description	Pack qty
11304095	Rota-Rack™ Duo	1



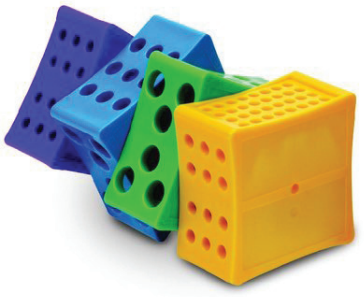
Tube rack, microcentrifuge, polypropylene, three way

- Three way polypropylene racks connect to one another on either end
- Convenient finger slots are moulded onto the rack and each of the three tiers accommodates a different size tube
- Lowest level has 24 wells to hold individual 0.2mL tubes or strips of 8 or 12 tubes
- Middle tier has 14 wells to hold 0.5mL tubes
- Top tier has 12 wells to hold 1.5mL tubes
- Autoclavable
- Dimensions (l x w x h), mm: 164 x 123 x 62
- Supplied in assorted colours (blue, green, purple, yellow, and orange)

Cat. No	Description	Pack qty
11928084	Microtube rack three way, assorted colours (blue, green, purple, yellow, orange)	6

*Polymerase Chain Reaction (PCR) is a process covered by patents owned by Hoffmann-La Roche

Tube racks, Rota Rack™



- Each module of the small Rota-Rack™ holds 6 x 15mL tubes, 9 x 1.5/2mL tubes, 12 x 0.5/0.6mL tubes or 32 independent 0.2mL PCR* tubes or 4 x 8 tube strips
- Each rack has modules in green, pink, blue and yellow, and is fully autoclavable

Cat. No	Description	Pack qty
11394085	Rota-Rack™, small	1
11384085	Rota-Rack™, large	1

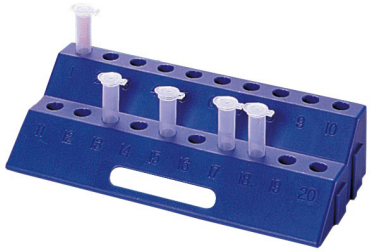
*Polymerase Chain Reaction (PCR) is a process covered by patents owned by Hoffmann-La Roche

Tube racks, four way

- Each rack can hold 4 x 50mL conical tubes, 12 x 15mL conical tubes, 32 x 1.5mL microtubes or 32 x 0.5mL microtubes
- Dimensions (l x w x h), mm: 174 x 95 x 52
- Autoclavable

Cat. No	Description	Pack qty
11750334	Four way tube rack, natural	5
11770045	Four way tube rack, blue	5
11760334	Four way tube rack, green	5
11780045	Four way tube rack, pink	5
11770334	Four way tube rack, yellow	5
11790045	Four way tube rack, orange	5
11700055	Four way tube rack, assorted colours (blue, green, pink, yellow and orange)	5

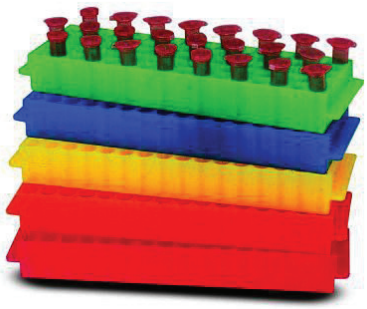
Tube rack, microcentrifuge, polypropylene, 20 well



- Polypropylene racks for storing 20 tubes
- Racks lock together on each side
- Tubes are easily removed using 'hold-it' finger slot on the front of the rack
- Dimensions (l x w x h), mm: 213 x 90 x 50
- Autoclavable

Cat. No	Description	Pack qty
11784016	Microtube rack 20 well, blue	6

Tube racks, microcentrifuge, polypropylene, 80 well



- Polypropylene 80 well microtube racks ideal for freezer storage
- Racks hold 1.5mL to 2mL microtubes in a 5 x 16 array. Tubes sit in large wells with conical bottoms
- Dimensions (l x w x h), mm: 225 x 67 x 28
- Autoclavable

Cat. No	Colour	Pack qty
11720344	Natural	5
11908084	Orange	5
11968074	Blue	5
11978074	Green	5
11988074	Pink	5
11998074	Yellow	5
11918084	Red	5
11728084	Assorted colours (one of each colour)	5

Tube racks Pop-Up™, polypropylene

- Designed to help organise 15mL and 50mL tubes
- Close flat for compact storage
- Pop up for quick use
- Easy open and close action
- Racks can be stacked in open or closed position
- With imprinted grid aids quick retrieval
- Dimensions (l x w x h), mm: 255 x 137 x 72 (when expanded)
- Not recommended for autoclaving

Cat. No	Accommodates	Wells	Well diameter, mm	Dimensions, mm (l x w x h), expanded	Dimensions, mm (l x w x h), collapsed	Pack qty
11710634	15mL and 50mL tubes	21/12	17/30	255 x 137 x 72	255 x 137 x 21	2
12693466	15mL tubes	45	17	255 x 137 x 72	255 x 137 x 21	2
12603476	50mL tubes	18	30	255 x 137 x 72	255 x 137 x 21	2

Tube racks, adapt-a-rack™

- Each slot adapts to accommodate 5 to 50mL tubes sizes and holds them in a firm upright position
- Made from POM
- Racks can be linked together for additional holding capacity
- Open sides allow for label viewing
- Flat base to hold tubes upright
- Linked racks should be supported underneath when carrying
- Available in a solid or a combination of colours for easy coding identification
- Autoclavable

Cat. No	Accommodates	Wells	Well diameter, mm	Diameter, mm (l x w x d)	Colour	Pack qty
15300370	5 to 50mL tubes	4	12 to 30	181 x 56 x 76	Blue/green	2
15320370	5 to 50mL tubes	4	12 to 30	181 x 56 x 76	Blue/yellow	2
15330370	5 to 50mL tubes	4	12 to 30	181 x 56 x 76	Pink/white	2
15340370	5 to 50mL tubes	4	12 to 30	181 x 56 x 76	Blue/blue	2
15350370	5 to 50mL tubes	4	12 to 30	181 x 56 x 76	White/white	2
15360370	5 to 50mL tubes	4	12 to 30	181 x 56 x 76	Pink/pink	2
15380370	5 to 50mL tubes	4	12 to 30	181 x 56 x 76	Yellow/yellow	2
15390370	5 to 50mL tubes	4	12 to 30	181 x 56 x 76	Green/green	2

Tube rack, centrifuge, 50mL

- Sturdy single tube storage for 50mL tubes
- Interlocking racks can be used as single stand-alone rack or interlinked to form a line
- Fully autoclavable
- Moulded circular base ring keeps conical or round bottom tubes in place
- Dimensions (l x w x h), mm: 83 x 70 x 67 (single unit)

Cat. No	Description	Pack qty
11717285	Interlocking centrifuge tube rack, polypropylene, assorted colours (blue, green, yellow, pink, orange)	5

Tube rack, 1 well 50mL, Friction-Fit

- Slides smoothly across the bench
- Snugly fits tubes from 27.5mm to 29.0mm in diameter
- Measures 92mm diameter and 30mm high
- Not recommended for autoclaving

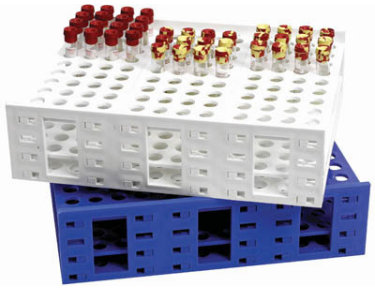
Cat. No	Description	Pack qty
11354055	Polystyrene Friction-Fit rack	5

Tube rack, centrifuge, adjustable

- Adjustable opening for different diameter tubes
- Holds 12 tubes from 15mL to 50mL (16mm to 30mm diameter)
- Size of opening can be changed by turning handle or by direct insertion of tube
- With handles for easy transportation
- Dimensions (l x w x h), mm: 194 x 140 x 51
- Not recommended for autoclaving

Cat. No	Description	Pack qty
11987994	Tube rack, centrifuge, adjustable	1

Tube racks, Mega Rack™



- Mega Rack™ are great in clinical labs for storage of large groupings of samples enabling you to place different test groupings into one rack
- Made from sturdy, lightweight material for easy transport
- Include an alphanumeric grid for quick location and retrieval of tubes
- Available in two sizes to fit standard 10 to 13mm or 13 to 16mm tubes

Cat. No	Tube size	Type	No. wells	Colour	Pack qty
11720634	10 to 13mm	Single	216	Blue	1
11730634	13 to 16mm	Single	120	Blue	1

Tube rack, microcentrifuge, polypropylene, cube

- User friendly cube racks
- Slide the polypropylene racks together in multiple orientations - work with different sized tubes at the same time
- Each rack can hold 4 x 50mL tubes, 10 x 15mL conical tubes, 12 x 75mL or 100mL tubes or 16 x 1.5mL to 2.0mL tubes
- Autoclavable
- Dimensions (l x w x h), mm: 108 x 113 x 113

Cat. No	Description	Pack qty
11784726	Cube rack, assorted colours (one each of blue, green, yellow, orange, and pink)	5

Test tube racks

- Made from Delrin™ fibreglass-reinforced polyoxymethylene (POM)
- Tough and more highly resistant to acids, bases, solvents and heat
- Offers the highest chemical and heat resistance (-40°C to +140°C)
- Available in half and full rack sizes for five different tube diameters
- Moulded in a single, continuous piece so no assembly required
- Autoclavable

Cat. No	Tubes	Wells	Well diameter mm	L x W x H, mm	Colour	Pack qty
Full size						
15340380	5 to 10 mL	72	13	104 x 202 x 59	White	1
15390380	5 to 10 mL	72	16	127 x 250 x 70	White	1
15340390	10 to 18mL	40	20	100 x 252 x 83	White	1
15370390	10 to 18mL	40	25	120 x 300 x 92	White	1
15310400	15 to 50mL	24	30	110 x 282 x 85	White	1
15350380	5 to 10 mL	72	13	104 x 202 x 59	Blue	1
15300390	5 to 10 mL	72	16	127 x 250 x 70	Blue	1
12327629	5 to 30mL	40	20	100 x 252 x 83	Blue	1
15380390	5 to 30mL	40	25	120 x 300 x 92	Blue	1
10257963	15 to 50mL	24	30	110 x 282 x 85	Blue	1
15360380	5 to 10 mL	72	13	104 x 202 x 59	Green	1
15310390	5 to 10 mL	72	16	127 x 250 x 70	Green	1
15350390	10 to 18mL	40	20	100 x 252 x 83	Green	1
15390390	10 to 18mL	40	25	120 x 300 x 92	Green	1
15330400	15 to 50mL	24	30	110 x 282 x 85	Green	1
15370380	5 to 10 mL	72	13	104 x 202 x 59	Magenta	1
15320390	5 to 10 mL	72	16	127 x 250 x 70	Magenta	1
15360390	10 to 18mL	40	20	100 x 252 x 83	Magenta	1
15300400	10 to 18mL	40	25	120 x 300 x 92	Magenta	1
15350400	15 to 50mL	24	30	110 x 282 x 85	Magenta	1
15380380	5 to 10 mL	72	13	104 x 202 x 59	Yellow	1
15330390	5 to 10 mL	72	16	127 x 250 x 70	Yellow	1
15360400	15 to 50mL	24	30	110 x 282 x 85	Yellow	1
Half size						
15390400	5 to 10 mL	36	13	104 x 104 x 59	White	1
15340410	5 to 10 mL	36	16	127 x 127 x 70	White	1
15310420	10 to 18mL	20	20	100 x 127 x 83	White	1
15380420	10 to 18mL	16	25	120 x 122 x 92	White	1
15330430	15 to 50mL	9	30	110 x 110 x 85	White	1
15300410	5 to 10 mL	36	13	104 x 104 x 59	Blue	1
15360410	5 to 10 mL	36	16	127 x 127 x 70	Blue	1
15340420	10 to 18mL	20	20	100 x 127 x 83	Blue	1
15300430	10 to 18mL	16	25	120 x 122 x 92	Blue	1
12317629	15 to 50mL	9	30	110 x 110 x 85	Blue	1
15310410	5 to 10 mL	36	13	104 x 104 x 59	Green	1
15380410	5 to 10 mL	36	16	127 x 127 x 70	Green	1
15350420	10 to 18mL	20	20	100 x 127 x 83	Green	1
15310430	10 to 18mL	16	25	120 x 122 x 92	Green	1
15340430	15 to 50mL	9	30	110 x 110 x 85	Green	1
15330410	5 to 10 mL	36	13	104 x 104 x 59	Magenta	1
15390410	5 to 10 mL	36	16	127 x 127 x 70	Magenta	1
15370420	10 to 18mL	20	20	100 x 127 x 83	Magenta	1
15320430	10 to 18mL	16	25	120 x 122 x 92	Magenta	1
15360430	15 to 50mL	9	30	110 x 110 x 85	Magenta	1
Polypropylene full size						
15370430	5 to 10mL	72	13	104 x 202 x 59	White	8
15310440	5 to 10mL	72	16	127 x 250 x 70	White	8
15380430	5 to 10mL	72	13	104 x 202 x 59	Blue	8
15320440	5 to 10mL	72	16	127 x 250 x 70	Blue	8
15390430	5 to 10mL	72	13	104 x 202 x 59	Green	8
15340440	5 to 10mL	72	16	127 x 250 x 70	Green	8
15300440	5 to 10mL	72	13	104 x 202 x 59	Magenta	8
15360440	5 to 10mL	72	16	127 x 250 x 70	Magenta	8

Tube racks, centrifuge, Puzzle Rack

- Two sided racks for use with 1.5mL, 2.0mL, 15mL and 50mL tubes
- Puzzle shaped racks can be used individually or connected to a square or row configuration
- Imprinted references aid easy retrieval of tubes
- Assorted colours - yellow, blue, green and orange
- Racks can be stacked when not in use
- Polypropylene
- Dimensions, mm: 151 x 135 x 66

Cat. No	Description	Pack qty
11324095	Puzzle Rack	4

Tube racks, floating

- Brightly coloured, HDR foam racks are ideal for floating tubes in water baths, tubs or beakers
- Closed cell foam resists water absorption so racks can be washed and reused
- Blue round rack features unique 'X' slits to hold a variety of tube sizes
- Include detachable carrying handles to lift samples easily
- Not recommended for autoclaving

Cat. No	Description	Colour	Pack qty
11724736	Holds 24 x 1.5mL to 2.0mL tubes	Yellow	5
11704736	Holds 4 x 50mL tubes	Green	5
11714736	Holds 8 x 15mL tubes	Blue	5
11736565	Holds 18 x 0.2mL to 2.0mL tubes, round rack	Blue	5
11736565	Holds 18 0.2mL/0.5mL/1.5 to 2.0mL tubes	Blue	5

FISHERBRAND SPOTLIGHT

The Fisherbrand Mini Centrifuge is ideal for quick spin downs, microfilter cell separations, PCR* and HPLC samples. It is compact and easy to use and comes as standard with a host of accessories.

Achieve maximal speed with minimum space. The Fisherbrand Midi Centrifuge is ideal for protocols calling for fast spins with a higher RCF requirement. Ideal for microfilter cell separations, PCR*, clinical applications and HPLC protocols.

Compact, economical high-speed Fisherbrand Microcentrifuges are available in two models, either a ventilated or a refrigerated version. They feature easy-to-use controls with digital display and provide efficient sample processing as well as a generous sample capacity.

Micro 17R refrigerated model
Cat. No 11526873

Midi Centrifuge
Cat. No 12972041

Mini Centrifuge
Cat. No 15358266

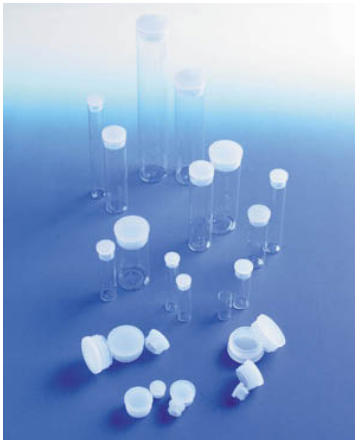
Micro 17 ventilated model
Cat. No 11516873

For further information on the products featured visit www.eu.fishersci.com/go/fisherbrand

VIALS

Fisherbrand offers a comprehensive range of dram, snap top, specimen and scintillation vials, of consistent and dependable quality and perfect for small sample collection, analysis or storage. This range also includes specialty diagnostic vials, available in both clear and amber, suitable for both freeze-drying and autoclaving, and dropper vials ideal for a range of diagnostic, pharmaceutical and healthcare applications.

Vials, specimen, glass, push-in cap



- Type III clear soda lime glass, straight sided, flat bottom, polyethylene supplied with push-in cap

Cat. No	Height, mm	Diameter, mm	Capacity, mL	Pack qty
14801582	38	10	2	250
14831582	38	12	3	100
14841582	50	10	3	250
14811582	50	12	4	100
14821582	50	19	8	100
14851582	50	25	16	100
14861582	75	16	10	100
14871582	75	19	13.5	100
14881582	75	25	25	100
14891582	100	12	9	100
14801592	100	25	35	100

Vials, specimen, glass, rolled rim, suitable for snap-on and push-in caps

- Manufactured from high quality Type 1B neutral glass
- Versatile capacity range from 7mL to 30mL
- Particularly suitable for the storage of powders and 'dry' samples

Cat. No	Height, mm	Diameter, mm	Cap size, mm	Capacity, mL	Pack qty
15364769	34	23	22	7	190
15374769	46	23	22	10.5	190
15384769	48	23	22	14	162
15394769	66	23	22	21	162
15304779	72	27	22	28	140

Caps, natural polyethylene

Cat. No	Description	Cap size, mm	Pack qty
15344789	Caps, snap on	22	300
15354789	Caps, push in	22	300

Vials, specimen, glass, for use with push-in caps

- Manufactured from clear Type 1B neutral glass
- Suitable for media, diagnostic, storage, display and sample collection applications

Cat. No	Height, mm	Diameter, mm	Cap size, mm	Dram volume, mm	Capacity, mL	Pack qty
15314779	36	11	8	0.5	1.75	882
15324779	46	12	8	1	3.5	666
15334779	58	17	10	2	7	399

Cat. No	Material/liner	Cap size, mm	Pack qty
Caps, polyethylene push in, natural			
15364789	Polyethylene	8	300
15374789	Polyethylene	10	300

Vials, specimen, glass, screw neck

- Manufactured from clear Type 1B neutral glass
- Squat and tall form options with standard neck sizes
- 1 dram equates to approximately 3.55mL (or 1/8 floz)
- Suitable for media, diagnostic, storage, display and sample collection applications

Cat. No	Height, mm	Diameter, mm	Cap size, mm	Dram volume, mm	Capacity, mL	Pack qty
Squat form vial						
15344779	42	20	18	2	7	264
15354779	58	23	22	4	14	190
15364779	72	27	28	8	28	140
Tall form vial						
15374779	36	11	10	0.5	1.75	882
15384779	46	12	10	1	3.5	666
15394779	58	17	15	2	7	399
15304789	67	17	15	3	10.5	399
15314789	72	20	18	4	14	264
15324789	86	21	18	6	21	231
15334789	96	23	22	8	28	190

Cat. No	Material/liner	Cap size, mm	Pack qty
Caps, polypropylene screw with foil liners, black			
15384789	Polypropylene/AFM	10	300
15394789	Polypropylene/AFM	15	300
15304799	Polypropylene/AFM	18	300
15314799	Polypropylene/AFM	22	300
15324799	Polypropylene/AFM	28	300

Vials, clear tubular glass, 7mL bijou and 28mL, universal, with fitted polypropylene screw caps

- Type III clear soda glass vials with screw neck and fitted PP cap

Cat. No	Height, mm	Diameter, mm	Capacity, mL	Neck finish	Tray quantity	Pack qty
14803562	43	20	7	18R3	1 x tray 245	245
14813562	43	20	7	18R3	7 x trays 245	1,715
14823562	82	27	28	24R3	1 x tray 125	125
14833562	82	27	28	24R3	4 x trays 125	500

Vials, clear moulded glass, pathology media, with fitted screw caps

Cat. No	Height, mm	Diameter, mm	Capacity, mL	Neck finish	Pack qty
Type I clear neutral glass vials with screw neck and fitted PP cap					
14843562	50	22	7	20R3	288
14863562	83	28	28	28R3	144
Type I clear neutral glass vials with screw neck and fitted aluminium rubber lined caps					
14873562	50	22	7	20R3	20
14853562	50	22	7	20R3	288
14883562	65	28	14	20R3	20
14893562	65	28	14	20R3	288
14803572	83	28	28	28R3	20
14823572	83	28	28	28R3	144

Vials, clear neutral glass, Type I, with dropper assembly

- Clear Type I neutral glass vials with screw neck
- Supplied with dropper assembly comprising clear glass dropper tube fitted to a polypropylene cap with natural rubber bulb
- Droppers are assembled but not fitted to vials (supplied in a separate bag)
- Dropper assemblies for 3mL and 4.5mL vials have white caps and bulbs, 5mL and 10mL vials have black caps and bulbs

Cat. No	Height, mm	Diameter, mm	Capacity, mL	Neck diameter, mm	Pack qty
14813572	36	16	3mL vial, 40µL dropper	14.5	50
14833572	36	16	3mL vial, 40µL dropper	14.5	374
14843572	47	16	4.5mL vial, 40µL dropper	14.5	50
14853572	47	16	4.5mL vial, 40µL dropper	14.5	374
14863572	43	20	5mL vial, 50µL dropper	18	40
14873572	43	20	5mL vial, 50µL dropper	18	245
14883572	58	20	10mL vial, 50µL dropper	18	40
14893572	58	20	10mL vial, 50µL ndropper	18	245

Vials, neutral glass, clear and amber, Type 1, diagnostic, screwthread

- Clear vials manufactured using Type I neutral glass
- Amber vials manufactured using Type I neutral glass that conforms to USP Type 1 requirements for light transmission to protect light sensitive products
- Tubular design provides excellent clarity and dimensional consistency from vial to vial
- Specially designed bottom radius adds strength for freeze drying applications
- Freeze dry stoppers demonstrate very low moisture absorption
- Two cap configurations available, PP cap and freeze dry stopper or urea EPE lined cap

Cat. No	Height, mm	Diameter, mm	Capacity, mL	Neck diameter, mm	Pack qty
Type I neutral glass vials, clear (caps sold separately)					
14803582	36	18	3	15.5	320
14813582	41	18	5	15.5	320
14823582	50	25	10	22	154
14833582	63	28	20	22	130
14843582	63	32	25	22	99
Type I neutral glass vials, amber (caps sold separately)					
14853582	36	18	3	15.5	320
14863582	41	18	5	15.5	320
14873582	50	25	10	22	154
14883582	63	28	20	22	130
14893582	63	32	25	22	99

Caps and closures for screwthread diagnostic vials

- Freeze dry stoppers are push in (not screw thread)
- Urea EPE lined caps are suitable for most applications

	Cat. No	Size, mm	Material	Pack qty
1	**14803592**	15.5	Polypropylene	1,000
2	**13550970**	14	Freeze dry stopper	1,000
	14813592	15.5	Urea EPE lined	1,000
	14833592	20	Freeze dry stopper	1,000
	14843592	22	Urea EPE lined	1,000
	14823592	22	Polypropylene	1,000

Vials, borosilicate glass, liquid scintillation, with caps, 7mL

- Smaller 7mL capacity vial saves in solvent use and disposal
- Potassium-free 33 borosilicate glass provides consistently low activity counts and excellent light transmission
- White caps fit GPI 22-400 thread finish and are suitable for marking
- Packed in five shrink wrapped trays of 200 vials, with five separately packed polybags each containing 200 caps

Cat. No	Cap material	Neck O.D., mm	Height, mm	Pack qty
10523904	Urea	17	54	1,000

Vials, borosilicate glass, liquid scintillation, with caps, 20mL

- Potassium-free 33 borosilicate glass provides consistently low activity counts and excellent light transmission
- Fit all common counters
- Caps fit GPI 22-400 thread finish, and are suitable for marking
- Vials with caps attached are shrink-wrapped in five trays of 100 per case
- When caps are separate, vials are shrink-wrapped in five trays of 100 per case, and caps are packed in five polybags of 100 caps each
- Vial dimensions, with cap (O.D. x h): 28mm x 61mm

Cat. No	Cap material	Cap style	Packaging type	Pack qty
12353317	Urea	Cork-backed metal foil liner	Caps attached	500
12363317	Urea	Cork-backed metal foil liner	Caps separate	500
12373317	Urea	Cone-shaped plastic liner	Caps separate	500
12383317	Polypropylene	Pulp-backed metal foil liner	Caps attached	500
12393317	Polypropylene	Pulp-backed metal foil liner	Caps separate	500
12303327	Polypropylene	No liner	Caps separate	500

Vials, sample, clear and amber, Type 1 Class A borosilicate glass, with fitted caps

- Supplied in partitioned trays
- Standard vials have fitted black phenolic caps with either polycone liner or PTFE faced white rubber liner
- Also available: pre-cleaned EPA (Environmental Protection Agency) vials for VOA (volatile organic analysis), with or without certification, having fitted white polypropylene open top caps with PTFE faced silicone septa

Cat. No	Capacity, mL	Capacity, drams	O.D., mm	Height, mm	GPI thread finish	Pack qty
Clear sample vials with fitted black phenolic polycone lined caps						
11660112	4	1	15	48	13-425	144
11537733	8	2	17	63	15-425	144
11547733	12	3	19	68	15-425	144
11553522	16	4	21	73	18-400	144
11583522	20	5	28	60	24-400	72
11563522	24	6	23	88	20-400	144
11593522	25	6.25	28	73	24-400	72
11573522	30	8	25	94	22-400	144
Clear sample vials with fitted black phenolic PTFE faced rubber lined caps						
11503532	2	0.5	12	38	8-425	288
11523532	4	1	15	48	13-425	144
11543532	8	2	17	63	15-425	144
11563532	12	3	19	68	15-425	144
11573532	16	4	21	73	18-400	144
11513542	20	5	28	60	24-400	72
11583532	24	6	23	88	20-400	144
11533542	25	6.25	28	73	24-400	72
11593532	30	8	25	94	22-400	144
Clear short sample vials with fitted black phenolic PTFE faced rubber lined caps						
11543542	2	0.5	15	31	13-425	200
11553542	4	1	17	41	15-425	200
11563542	6	1.5	19	43	15-425	200
Amber sample vials with fitted black phenolic PTFE faced rubber lined caps						
11573542	2	0.5	12	38	8-425	288
11583542	4	1	15	48	13-425	144
11309493	8	2	17	63	15-425	144
11503552	20	5	28	60	24-400	72
11513552	40	10	28	98	24-400	72
Cat. No	**Capacity, mL**	**Capacity, drams**	**Colour**	**Height, mm**		**Pack qty**
Pre-cleaned EPA (Environmental Protection Agency) vials for VOA in both clear and amber, with fitted white polypropylene open top cap and fitted PTFE faced silicone septa. All EPA vials have an outside diameter of 28mm, 24-400 GPI thread finish.						
Without certification						
11553552	40	10	Clear	98		144
11563552	40	10	Amber	98		144
With certification						
11583552	40	10	Clear	98		144
11593552	40	10	Amber	98		144

Vials, HDPE, liquid scintillation, with caps, 7mL

- 7mL smaller capacity vials require less solvent
- HDPE provides low background counts and excellent light transmission, resists swelling caused by solvent degradation
- White caps fit GPI 15-425 thread finish and are suitable for marking
- Packs of 1,000 vials are shrink-wrapped in four trays of 250, with caps separately packed in four polyethylene bags of 250
- Packs of 2,000 vials are bulk packed in one polyethylene bag, with caps packed in two polyethylene bags of 1,000

Cat. No	Cap material	Cap style	Packaging type	Pack qty
12371599	Polyethylene	No liner	Cap separate	1,000
12644347	Polyethylene	No liner	Cap separate	2,000

Vials, HDPE, liquid scintillation, with caps, 20mL

- 20mL vials fit all common counters
- High density polyethylene (HDPE) provides low background counts, excellent light transmission and resists leaking and swelling
- White caps fit GPI 22-400 thread and are suitable for marking
- Vials are shrink-wrapped in five trays of 100 per case
- Separate caps are packed in five polybags of 100
- Vial dimensions, with cap, (O.D. x h), mm: 28 x 61

Cat. No	Cap material	Cap style	Packaging type	Pack qty
12321599	Urea	Cork backed metal foil liner	Caps separate	500
12365573	Urea	Cone shaped plastic liner	Caps separate	500
12341599	Polypropylene	Pulp backed metal foil liner	Caps separate	500
12351599	Polypropylene	Pulp backed metal foil liner	Caps attached	500
12361599	Polypropylene	Pulp backed metal foil liner	Bulk	1,000

Vial caps, colour coders

- Cap inserts for colour coding cryogenic vials
- Five colours available
- Flat top allows for handwritten sample identification
- Inserts available for both internally and externally threaded vials

Cat. No	Colour	For use with	Pack qty
11927974	White	Externally threaded vials	500
11937974	Yellow	Externally threaded vials	500
11947974	Green	Externally threaded vials	500
11957974	Blue	Externally threaded vials	500
11967974	Red	Externally threaded vials	500
11977974	White	Internally threaded vials	500
11987974	Yellow	Internally threaded vials	500
11997974	Green	Internally threaded vials	500
11907984	Blue	Internally threaded vials	500
11917984	Red	Internally threaded vials	500

For cryogenic vials, please refer to page 58

FISHERBRAND SPOTLIGHT

Fisherbrand offers a comprehensive range of ultrasonic baths with or without heating used for cleaning, solving, mixing and degassing.

Ultrasonic bath, unheated
Cat. No 10611983

For further information on the products featured visit www.eu.fishersci.com/go/fisherbrand

WEIGHING

Our weighing boats and weighing funnels complement perfectly our new range of high specification Fisherbrand balances meaning that you need look no further than Fisherbrand for your complete weighing requirements.

Weighing funnels, borosilicate glass

- Ideal for weighing small quantites of powder.
- Powder can be introduced via the tubular stem.

Cat. No	Capacity, mL	Length, mm
11572902	3	70
11582902	6	85
11592902	10	100

Weighing boats, polystyrene, disposable

- Available as standard or anti-static
- Diamond or square shaped
- In black or white
- 5mL to 280mL capacity

Cat. No	Shape	Capacity, mL	Pack qty
Standard black			
12952850	Diamond	5	500
12962850	Diamond	30	500
12972850	Diamond	100	500
12982850	Square	10	500
12992850	Square	85	500
12902860	Square	280	500
Anti-static black			
12912860	Diamond	5	500
12922860	Diamond	30	500
12932860	Diamond	100	500
12942860	Square	10	500
12952860	Square	85	500
12962860	Square	280	500
Standard white			
12932840	Diamond	5	500
11573422	Diamond	30	500
12387552	Diamond	100	500
11593422	Square	10	500
11503432	Square	85	500
11513432	Square	280	500
Anti-static white			
12992840	Diamond	5	500
11533432	Diamond	30	500
11543432	Diamond	100	500
12922850	Square	10	500
11680302	Square	85	500
12608513	Square	280	500

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