

EUROSTAR SCIENTIFIC LTD 2005

Specialist Laboratory Suppliers

You may wish to view our current catalogue on www.timstar.co.uk

but if required items not shown, please ask.

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Eml:



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Eml:



Product Range:

We supply a wide range of products covering a variety of fields of scientific research. The details below are representative of those most commonly supplied.

- Education:** Physics Apparatus, Glass/Plastic Ware Demonstration Models, Biological Supplies
- Health:** Laboratory Disposables and Consumables, Blood Grouping Antisera, Diagnostic Reagents & Kits Stains - dry stains, prepared stains, and stain-packs, Culture Media, Tissue Culture & Molecular biology products
- Chemicals:** We supply a comprehensive range of chemicals from Technical grade through to Analytical HPLC grades
- General Purpose:** Pipettors. Centrifuges, Pyrex and Quickfit Glassware, Volumetric Glassware
Water Baths, Stirrers, Ovens & Incubators
- Many more products not mentioned here
- Environmental:** Water test equipment, monitoring equipment, Pollution Testing & Control

Service:

Eurostar Scientific has a dedicated team of staff with considerable experience in supplying to a demanding customer base.

We have successfully tendered and supplied numerous projects; our current customer base includes the World Health Organisation, and various Aid Agencies.

We provide a full service to customers including delivery to nominated freight forwarders, or preparing shipments and documentation through our own staff. Hazardous chemicals are packed according to International Standards (IMCO and IATA).

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ABSORPTION

ABSORPTION TOWERS, Glass, rifled nozzle.

AB00005 ① 310mm x 45mm

ABSORPTION TUBES, Glass, straight form.

AB00010 ② 100mm x 12mm

AB00015 150mm x 20mm

ABSORPTION TUBES, Glass, plain 'U' form.

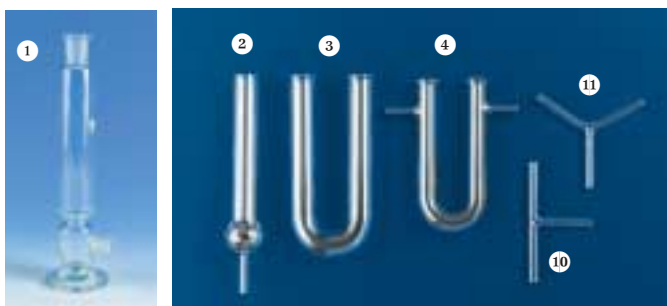
AB00020 ③ 125mm x 15mm

AB00025 150mm x 20mm

ABSORPTION TUBES, Glass, 'U' form with side arms.

AB00030 ④ 125mm x 15mm

AB00035 150mm x 20mm



ADAPTERS

ADAPTERS, Polypropylene 'T' shape.

O.D mm

AD00041 ⑤ 4.0

AD00046 6.0

AD00051 8.0

AD00056 10.0

ADAPTERS, Polypropylene 'Y' shape.

O.D mm

AD00061 ⑥ 4.0

AD00066 6.0

AD00071 8.0

AD00076 10.0

ADAPTERS, Polypropylene Straight.

Nom. O.D mm

AD00083 ⑦ 4/7 x 4/7

AD00085 7/12 x 7/12

AD00087 10/15 x 10/15



ADAPTERS, Polypropylene Straight Unequal.

Nominal O.D mm

AD00091 ⑧ 4/7 x 7/12

AD00093 4/7 x 10/15

AD00095 7/12 x 10/15

ADAPTERS, Disconnecter, Polypropylene Straight.

O.D. mm

AD00110 ⑨ 4/6

AD00112 6/8

AD00114 8/10

AD00116 10/12

ADAPTERS, Glass.

O.D. mm

Type

AD00118 ⑩ 6/7 T-shape

AD00120 8/9 T-shape

AD00124 ⑪ 6/7 Y-shape

AD00125 8/9 Y-shape

ADHESIVES



ADHESIVE 'ARALDITE' RAPID.

Resin /Hardener.

AD00200 ⑫

ADHESIVE 'BOSTIK' Clear.

Synthetic rubber/resin.

AD00205 ⑬ 20ml Tube.

ADHESIVE 'EVOSTICK'.

Neoprene resin.

AD00210 ⑭ Tube of 40g

ADHESIVE 'BLU TACK'.

A reusable non-toxic adhesive putty.

AD00215 ⑮

ADHESIVE 'BOSTIK'

Super Glue

AD00227 ⑯

ADHESIVE P.V.A.

A non-toxic white emulsion which dries to a clear film.

AD00228 ⑰



GLUE GUN 'BOSTIK' HANDY SIZE. A hot melt, trigger operated compact glue gun. For use on 240V.

AD00230 ⑱ Hot Melt Glue Gun

AD00231 ⑲ Hot Melt Glue Sticks in Packs of 14

GLUE GUN 'BOSTIK' COOL MELT. A versatile glue gun, ideal for glueing most materials. For 240v.

AD00233 ⑳ Cool Melt Glue Gun

AD00234 ㉑ Cool Melt Glue Sticks in Packs of 6



PRITT STICK. A non-toxic stick adhesive.

AD00235 ㉒

10g Standard Tube

ALUMINIUM

ALUMINIUM FOIL

AL00252 ①
Roll of 9.1M x 300mm wide

AL00255 ②
Roll of 90M x 450mm wide



AQUARIA

AQUARIUM, Transparent plastic c/w vented hood and access door, can also be used as a vivarium. 11Lt capacity.

AQ00400 ③ 300 x 200 x 200mm

GOLD FISH BOWL. Clear plastic bowl 28cm dia. with rim and base.

AQ00402 ④



AQUARIA, Bonded Glass.

AQ00410 600 x 375 x 300mm

AQ00420 900 x 375 x 300mm

HOODS, AQUARIUM. Light alloy.

AQ00440 600mm

AQ00450 900mm

FILTERS

AQ00470 Underground 425 x 300mm

AQ00475 Underground 600 x 300mm

AQ00480 Corner

AQ00484 Filter Carbon

AQ00495 Gravel

AQ00500 Airline

AQ00505 'T' Connector

AQ00515 Airline Clamp

AQ00520 Air Stone (Diffusers)



FISH FOOD

AQ00525 ⑤ Cold Water 'Supa'

AQ00530 ⑥ Daphnia 'Supa'

AQ00534 Tropical Flashes 'Aquarian'

HEATER/THERMOSTATS, 'Therasure' with 13A plug.

AQ00540 ⑦ 100W

AQ00551 200W

AQ00552 300W

LIGHTING

AQ00575 Fluorescent unit for use with 450mm, 15W tube

AQ00580 Fluorescent Tube, 'AquaGlow' 450mm, 15W

AQ00585 Fluorescent unit, for use with 900mm, 30W tube

AQ00590 Fluorescent Tube, 'AquaGlow' 900mm, 30W

PUMPS, AQUARIUM

AQ00606 ⑧ Pump for 45cm tank

AQ00608 Pump for 60cm tank

AQ00610 Pump for 75cm tank

AQ00612 Pump for 90cm tank

Ancillary Equipment:

AQ00625 ⑨ Blue Line Thermometer

AQ00630 ⑩ LCD 115cm s/a strip

AQ00635 Nets 75 x 50mm

AQ00636 ⑪ Nets 125 x 100mm

AQ00637 Nets 150 x 125mm

AQ00642 Scraper with Planting Fork

AQ00645 ⑫ Silicone Sealer



ASPIRATORS

ASPIRATOR BOTTLE, Polythene.

AS00830 ⑬ 5Lt. with Tap and Handle

AS00835 ⑭ 10Lt. with Tap and Handle

AS00836 Spare tap for 5 and 10 Lt Aspirators

AS00840 ⑮ 25Lt. Rectangular with Large Bore Stopcock

AS00841 Spare Tap for 25Lt. Aspirator

AS00845 50Lt. Circular with Tap

AUTOCLAVES



AUTOCLAVE, High Dome Pressure Cooker. With safety valve and 3 pressure settings. Approx 4Lt. Capacity

AU00900 ①
Pressure Cooker
AU00902
Spare Gasket

AUTOCLAVE, Portable, aluminium with safety valve, pressure gauge, temperature gauge and drain cock. Internal dimensions, 280mm diameter x 273mm deep. Capacity 13Lt.

AU00905 ② Gas heated without burner
AU00912 ③ Electric, thermostatically controlled

Accessories:-

AU00930 Lid Gasket
AU00935 Inner Liner



AUTOCLAVE, PRESTIGE MEDICAL. A fully automatic portable autoclave. Sterilisation time 11 min at 126°C with a cycle time of 22mins. Supplied complete with basket, instrument tray, lifting handle and instruction booklet.

Model	Size H x W x Max Int. H.
AU00950	Standard 335 x 340 x 228mm
AU00951	Standard c/w gauges.
AU00952	Extended 420 x 340 x 300mm
AU00953 ④	Extended c/w gauges.

Accessories:-

AU00955 Spare Sealing Gasket.

AUTOCLAVE ACCESSORIES

AUTOCLAVE BAGS for autoclaving and disposal of cultures and petri-dishes. Size: 670 x 305mm.

AU00970 ⑤

AUTOCLAVE INDICATOR TAPE. Self adhesive tape 19mm wide x 55M with strips which change colour.

AU00975 ⑥

T.S.T. STERILISATION STRIPS. In packs of 100.

AU00980 ⑦

AUTOCLAVE DEODORISER CAPSULES for neutralising pungent odours. Pine scented. Each capsule is sufficient for an average load in a 200lt capacity autoclave. In packs of 100.

AU00982



BAGS

BAGS, Polythene Film.

BA01000	100 x 150mm
BA01006	175 x 225mm
BA01010	200 x 250mm
BA01015	200 x 300mm
BA01016	300 x 375mm
BA01017	450 x 600mm



BAGS, Polythene Film Re-sealable.

BA01020	89 x 114mm - Plain
BA01021	89 x 114mm - White Write on Panel
BA01022	102 x 140mm - White Write on Panel
BA01025	127 x 191mm - Plain
BA01026	152 x 229mm - White Write on Panel
BA01027	203 x 279mm - White Write on Panel

BIN BAGS - See under WASTE.

BALANCES

SIMPLE BALANCES

SIMPLE ROCKER BALANCE

One piece construction. Incorporates a 'maths balance' feature allowing pupils to explore number relationships using marbles etc. Built-in compensators ensure accuracy. Size: 520 x 110 x 45mm.

BA01083 ①

ROCKER SCALES 'INVICTA'. Made in a tough washable plastic. Very sensitive, even 1g will register a positive movement. The transparent 1/2 Lt tubs are graduated, detachable and are designed to pivot so that correct readings are given even when objects are placed off-centre.

BA01085 ②

SIMPLE BALANCE 'INVICTA'. A large accurate set of scales with detachable 1Lt Pans giving precise measurement from 5g to 2Kg. Supplied complete with a set of 5 x 5g and 5 x 10g stackable weights.

BA01087 ③

BUCKET BALANCE 'INVICTA'. Similar to BA01087 except supplied with 2 x 2.5Lt Buckets rather than the 1Lt shallow pans.

BA01088 ④

LEVER ARM BALANCE. Dual Range 0-250g x 1g and 0-1000g x 5g.

BA01095 ⑤



OHAUS BALANCES

BALANCE 'OHAUS' 750S. Triple Beam. 2610g x 0.1g cap. with magnetic damping and tare beam, with 15cm S/Span.

BA01110

Balance

BA01125

Set of Masses, 2 x 1kg/1 x 500g



BALANCE 'OHAUS'.ADVENTURER SERIES. A range of economically priced precision balances containing the following features:-

- Large clear LCD display.
- RS 232 interface.
- 16 Weighing units.
- Parts counting.
- Under balance weighing.
- Tare to capacity.
- Supplied with Balance Talk software



	Model	Capacity	Pan size (mm)
BA01130	AR3530	150 x 0.001g*	100 ø
BA01132	AR3130	310 x 0.001g*	100 ø
BA01134	AR5120	510 x 0.01g	180 ø
BA01136	ARA520	1500 x 0.01g	180 ø
BA01138	ARC120	3100 x 0.01g	180 ø

* Supplied with draught shield

Accessories:-

BA01140	Anti Theft device
BA01141	In use balance cover
BA01142	Printer. (Includes interface cable)
BA01143	Replacement AC Mains Adapter

BALANCE, 'OHAUS'. ADVENTURER

ANALYTICAL. Easy to use, high precision analytical balances, containing all the features of the Adventurer Series listed above. Full size three door draft shield and 90mm dia. pan.

BA01145	AR0640	65 x 0.0001g
BA01146	AR2140	210 x 0.0001g



BALANCE, 'OHAUS'. ADVENTURER - PRO SERIES. An economical range of balances with precision and portability, containing the following features:-

- Large 2-line backlit LCD with text prompts.
- 18 weighing units.
- Parts counting.
- Dynamic, check and percentage weighing.
- Totalisation.
- Fixed integral weigh below hook.
- GLP/ GMP data with time and date.
- RS 232 Interface.
- Mains or battery operation (batteries not supplied).
- Adjustable feet and front level bubble.
- Supplied with Balance Talk Software.



	Model	Capacity	Pan size (mm)
BA41170	AV212	210 x 0.01g	120 ø
BA41171	AV412	410 x 0.01g	149 x 162
BA41172	AV812	810 x 0.01g	149 x 162
BA41174	AV2101	2100 x 0.1g	149 x 162
BA41176	AV4101	4100 x 0.1g	149 x 162

Accessories:-

BA01140	Anti Theft device
BA41178	In use cover
BA41179	Replacement Mains Adapter

BALANCE 'OHAUS'. EXPLORER - PRO SERIES. A range of high quality precision balances, containing the following features:-

- Large, clear LCD display with user friendly text prompts.
- 14 weighing units.
- Parts counting.
- Dynamic, check and percentage weighing.
- Gross/ Net Tare.
- GLP/ GMP data, time and date.
- RS 232 interface.
- Display cover.
- Integral weigh below hook.
- Adjustable feet and front level bubble.
- Supplied with Balance Talk Software.



	Model	Capacity	Pan size (mm)
BA41150	EP213	210 x 0.001g	121ø
BA41151	EP413	410 x 0.001g	121ø
BA41152	EP413D	100/410 x 0.001/0.01g	121ø
BA41153	EP612	610 x 0.01g	172 x 172
BA41154	EP1502	1500 x 0.01g	172 x 172
BA41155	EP2102	2100 x 0.01g	172 x 172
BA41156	EP4102	4100 x 0.01g	172 x 172
BA41157	EP4101	4100 x 0.1g	203 x 203

Accessories:-

BA01142	Printer SF42 complete with interface cable
BA41161	Anti theft device
BA41162	Replacement main adapter

BALANCE 'OHAUS'. SCOUT - PRO SERIES. A range of portable balances with superior performance:-

- Large LCD display.
- 7 - weighing units
- Parts counting.
- Percentage weighing.
- Integral weight below hook.
- Stability indicator.
- Auto shut off.
- Mains or battery operation. (Batteries not supplied).

	Model	Capacity	Pan size (mm)
BA41181	SPU202	200 x 0.01g	120ø
BA41182	SPU402	400 x 0.01g	120ø
BA41183	SPU401	400 x 0.1g	120ø
BA41184	SPU601	600 x 0.1g	165 x 142
BA41185	SPU2001	2000 x 0.1g	165 x 142
BA41186	SPU4001	4000 x 0.1g	165 x 142
BA41187	SPU6000	6000 x 1g	165 x 142

Accessories:-

BA01140	Anti-theft device
BA01191	RS232 Interface (cable included)
BA01192	USB Interface (cable included)
BA01193	Density determination kit
BA01194	Replacement AC Mains Adapter



BALANCE 'OHAUS'. CS - SERIES.

Economically priced portable balances containing the following features:-

- Mains adapter (optional extra)
- Selectable read out.
- Large L.C.D.
- Full subtractive tare.
- Energy saving automatic shut off in battery mode.
- Takes 3 x AA batteries.

BA01205	CS200	200 x 0.1g.
BA01206	CS2000	2000 x 1g.
BA01207	CS5000	5000 x 2g.
BA01208	Mains Adapter	220/240V.
BA01209	Stainless Steel pan	



AVERY BERKEL (OERTLING) BALANCES

BALANCES 'AVERY BERKEL' F-SERIES. A range of precision top pan balances at affordable prices containing the following features:-

- Large clear LCD panel display.
- Touch key calibration.
- Tough, wipe clean one piece display & keypad overlay.
- Large stainless steel pan.
- Full range tare facility.
- Integral RS232 bi-directional interface.
- Underbench weighing.
- Variable weighing modes.
- Percentage weighing.
- Animal weighing.
- Parts counting.
- Supplied with balance monitor software package
- Supplied with mains adapter.



BA01210	FA612T	610 x 0.01g	Pan: 115mm dia.
BA01211	FB212T	2100 x 0.01g.	Pan: 115mm dia.
BA01212	FA113	110 x 0.001g.*	Pan: 180mm2
BA01213	FA313	310 x 0.001g.*	Pan: 180mm2

*Supplied with draught shield.

BALANCE AVERY BERKEL' TA-SERIES. A range of compact, portable balances suitable for many precision weighing uses, containing the following features:-

- Large LCD display.
- Stainless steel pan.
- RS232 output.
- Variable weighing modes.
- Percentage weighing.
- Full subtractive tare.
- Clip-on draught shield.
- Size 240 x 310 x 120mm.
- Supplied with balance monitor software package
- Powered by AC adaptor (supplied) or batteries.

BA01215	TSA302	300 x 0.01g.
BA01216	TSA602-2	600 x 0.02g.
BA01217	TSA1502-5	1500 x 0.05g.
BA01218	TSA3001	3000 x 0.1g.



RAVENCOURT BALANCES

BALANCE 'RAVENCOURT'.

Low cost scientific quality balances, containing the following features:-

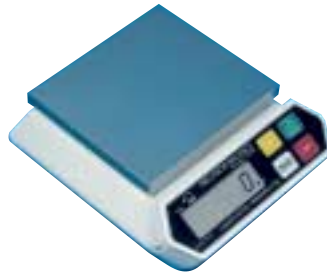
- Large clear LCD.
- 125mm dia. weighing platform.
- Rugged construction.
- Tare function.
- Spill proof membrane switches.
- Accurate 'load cell' mechanism.
- DC operation by 1 x 9V battery.
- Mains adapter (optional extra).



- BA01227** **Ravencourt 333. 2000 x 1g**
BA01228 **Ravencourt 444. 200 x 0.1g**
BA01229 **Mains adapter 220/240V**

RAVENCOURT BALANCE 848B. A superb balance with a capacity of 500x0.1g. representing true value for money. Containing the following features:-

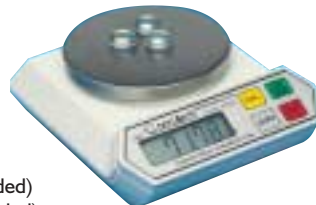
- Large clear LCD
- Stainless steel weighing platform
- Robust, spill protected housing
- Tare function
- Built-in overload protection
- Accurate load cell mechanism
- DC operation (1x9V Battery, not included)
- AC operation (Mains Adaptor, not included)



- BA01230** **Balance 848B. 500x0.1g.**
BA01229 **Mains Adaptor**

RAVENCOURT BALANCE 2020. Designed specifically for educational use. Capacity 300x0.01g. Containing the following features:-

- Large clear LCD
- Stainless steel weighing platform
- Auto-calibration
- Robust spill protected housing
- Tare function
- Built-in overload protection
- Accurate load cell mechanism
- DC operation (1x9V Battery, not included)
- AC operation (Mains adaptor, not included)



- BA01232** **Balance 2020. 300x0.01g.**
BA01229 **Mains Adaptor**

A.T.P. BALANCES

DIGITAL BALANCE WITH TARE AND CHECK WEIGHING.

A range of portable digital balances housed in a high impact ABS case with 150mm dia. pan. The check weighing facility allows the user to set a target weight and a beep sounds when this is achieved.

Containing the following features:-

- Hi-contrast 17mm LCD.
- Full subtractive Tare.
- Low battery indicator.
- Check weighing facility.
- Powered by 1 x 9V (PP3) battery or mains adapter (not supplied).
- Size 210 x 150 x 40mm.



- BA01250** **2000 x 1g**
BA01251 **5000 x 5g**
BA01252 **Optional Weighing Bowl**
BA01253 **Mains adapter**

HL BALANCES

BALANCE - HL SERIES. A range of junior, low cost portable, high resolution balances. Ideal for lower school use, containing the following:-

- Clear, 8mm. LCD display
- Full capacity tare
- Simple two button operation
- Full digital calibration
- Overall size - 140 x 198 x 44.5mm
- Powered by 6 x AA batteries or mains adapter (not supplied).



- BA01269** **HL-100 100x0.01g. 70mm dia pan**
BA01270 **HL-200 200x0.1g. 136mm² pan**
BA01271 **HL-2000 2000x1g. 136mm² pan**
BA01272 **HL-400 400x0.1g. 136mm² pan**
BA01273 **Mains Adaptor**

BALANCE - EK-H SERIES. A range of advanced precision balances, containing the following features:-

- Clear, sealed, wide angle LCD
- Large stainless steel pan 133 x 170mm
- full capacity tare
- Built in level and levelling feet
- Robust construction with overload protection
- Anti-theft lug
- Optional RS232 interface
- Overall size - 200 x 253 x 73mm
- Supplied with mains adaptor.



- BA01280** **EK-400H 400x0.01g.**
BA01281 **EK-600H 600x0.01g.**
BA01282 **EK-4000H 4000x0.1g.**

Accessories:-

- BA01285** **RS232 interface**
BA01286 **Comparator output (with buzzer)**

BALANCE - EK-i SERIES. A range of student portable balances, combining new styling and enhanced electronics at an affordable price. Containing the following features:-

- Clear with backlit LCD display
- Simple push button operation
- RS232 interface
- GLP data output
- Variable weighing modes
- Full capacity tare
- Counting and percentage mode
- Overall size - 200 x 253 x 73mm
- Supplied with mains adaptor.

- BA01290** **EK-200i 200x0.01g. 110mm dia pan**
BA01291 **EK-300i 300x0.01g. 110mm dia pan**
BA01292 **EK-1200i 1200x0.1g. 133x170mm pan**
BA01293 **EK-2000i 2000x0.1g. 133x170mm pan**



SPRING BALANCES

DIGITAL HANGING BALANCE. A hand held or hanging balance with full subtractive tare and auto shut-off to conserve battery life. Supplied in a hi-grade ABS plastic case with hook. Powered by 1 x 9V PP3 battery (not supplied). Size 270 x 90 x 30mm.

- BA01317 ① 15Kg x 15g
 BA01318 25Kg x 50g
 BA01319 150N x 0.2N

BALANCE SPRING Salter Model 12. A durable, robust spring balance housed in a tough ABS plastic case with bottom hooks and zero adjuster.

- BA01350 ② 1N x 0.01N
 BA01351 10N x 0.1N
 BA01352 30N x 0.5N
 BA01353 100N x 1.0N

BALANCE SPRING Salter 'Super Samson'. Tubular form with overload protection, zero adjuster, hanging ring and hook.

- BA013553 ③ 1kg x 5g
 BA013554 2kg x 10g
 BA013555 5kg x 25g
 BA013556 10kg x 50g
 BA013563 50N x 0.5N



BALANCE SPRING - Transparent Body. A range of colour coded tubular spring balances that can be used for both force and mass measurements, calibrated in both Newtons and grams.

- BA013570 250g/2.5N
 BA013571 500g/5N
 BA013572 1Kg/10N
 BA013573 2Kg/20N
 BA013574 3Kg/30N
 BA013575 5Kg/50N
 BA013576 ④ Set of 6 Balances

PUSH/PULL NEWTON SCALE. For measuring forces in tension or compression with a capacity of 10x0.2N. Consisting of a robust metal case (420mm), visible spring mechanism, zero adjust setting knob, clear double arrow indicator and 3-way force plate - Push plate, platform and foldaway hook.

- BA01355 ⑤

BALANCE, COMPRESSION. Kitchen Scales, mechanical.

- BA01360 ⑥ 5Kg x 25gms.
 BA01362 500gms. x 5gms.



BALANCE 'BATHROOM SCALE', complete with zero adjuster and magnifying lens for easy reading.

- BA01365 ⑦ 1250 x 5N
 BA01370 125Kg x 0.5kg.

BALANCE ACCESSORIES

WEIGHING BOATS. Polystyrene disposable. Can be shaped to form a pouring funnel.

- BA01375 ⑧ 30ml
 BA01380 7ml

WEIGHING BOTTLES. Glass.

- BA01385 ⑨ 40mm(H) x 20mm(dia.)
 BA01390 50mm(H) x 25mm(dia.)
 BA01395 60mm(H) x 30mm(dia.)
 BA01400 25mm(H) x 50mm(dia.)

WEIGHING FUNNELS, 'Pyrex' Glass 10ml. Length 100mm.

- BA01405 ⑩

WEIGHING BOTTLES, Polypropylene.

	Capacity (ml.)	Tare gms.
BA01410 ⑪	25	8
BA01411	30	8
BA01412	50	10
BA01413	65	14
BA01414	200	28
BA01415	400	40



WEIGHTS, OIML M2. Brass

- BA17860 5gm
 BA17861 10gm
 BA17862 20gm
 BA17863 50gm
 BA17864 100gm
 BA17865 500gm

HEXAGONAL and SLOTTED MASSES - See Page 92

BALLOONS

BALLOONS, ROUND.
BA01420

BALLOONS, CYLINDRICAL
BA01422

BALLOON PUMP
BA01424



BAROMETERS

BAROMETER ANEROID. Wall mounting.
Dual scale 940 to 1060 x 1mb and 28 to 31 x
0.02in. 100mm dia.
BA01455

BAROMETER ANEROID. Wall mounting in
plastic case. 80mm dia. Dual scale 960 to 1070 x
1mb and 720 to 800mm.
BA01456



BASINS

BASINS, CRYSTALLISING, Pyrex. Borosilicate Glass without spout.

	Cap(ml)	Dia. x Ht(mm)
BA01500 ①	100	70 x 40
BA01505	150	80 x 45
BA01510	300	95 x 55
BA01515	500	115 x 65
BA01520	1000	140 x 75

BASINS, CRYSTALLISING. Borosilicate Glass with spout.

	Cap(ml)	Dia. x Ht(mm)
BA01525 ②	40	50 x 30
BA01526	100	70 x 40
BA01527	300	90 x 53

BASINS, CRYSTALLISING. Borosilicate Glass without spout.

	Cap(ml)	Dia. x Ht(mm)
BA01530 ①	40	50 x 30
BA01531	100	70 x 40
BA01532	300	90 x 53

BASINS, EVAPORATING, Pyrex. Borosilicate Glass 'Flat Bottom'
with spout.

	Cap(ml)	Dia. x Ht(mm)
BA01560 ③	40	60 x 30
BA01565	100	80 x 45
BA01570	170	95 x 55
BA01575	300	115 x 65



BASINS, EVAPORATING. Borosilicate Glass, 'Flat Bottom' with
spout.

	Cap(ml)	Dia. x Ht(mm)
BA01580 ③	45	60 x 25
BA01581	90	80 x 30
BA01582	170	100 x 40

BASINS, EVAPORATING. Grade A porcelain. Shallow form with lip.
Round bottom.

	Cap(ml)	Dia. x Ht(mm)
BA01600 ④	50	65 x 28
BA01605	75	80 x 32
BA01610	95	85 x 35
BA01615	170	95 x 42
BA01620	285	115 x 50

BASINS, EVAPORATING. Porcelain, Economy Grade B. Shallow form
with lip. Round bottom.

	Cap(ml)	Dia. x Ht(mm)
BA01624 ⑤	35	60 x 25
BA01625	50	70 x 28
BA01626	75	82 x 32
BA01627	100	90 x 35
BA01628	125	98 x 38

BASINS, EVAPORATING. Grade A porcelain. Deep form with lip.
Round bottom.

	Cap(ml)	Dia. x Ht(mm)
BA01630 ⑥	50	70 x 34
BA01635	150	97 x 50
BA01640	250	110 x 52

BASINS, EVAPORATING. Grade A porcelain. Shallow form with
spout. Flat bottom.

	Cap(ml)	Dia. x Ht(mm)
BA01660 ⑦	30	70 x 15
BA01665	55	80 x 20
BA01670	110	100 x 25



BASINS, EVAPORATING. Nickel, 80ml capacity 70mm dia.
BA01678 ⑧

DISHES, EVAPORATING. Nickel 55 x 19mm. Capacity 45ml
BA01681 ⑨ Dish
BA01686 Lid

BASKETS

BASKETS, TEST TUBE. Cubical, nylon coated metal wire.

BA01700 ①	100mm cube
BA01705	125mm cube
BA01710	150mm cube
BA01715	200mm cube

BASKETS TEST TUBE. Cylindrical, nylon coated metal wire with handle.

BA01720	180mm dia. x 160mm deep.
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SAND BATHS. Deep form. Tinned iron.

BA01915 ④	150mm (Dia.) x 38mm(D)
BA01916	200mm (Dia.) x 48mm(D)

WATER BATH Aluminium, circular, fitted with concentric rings. Size 90 x 125mm dia. For use with tripod stand or hot plate.

BA01780 ⑤



BATHS

ULTRASONIC CLEANING BATHS, Nickel Electro. For rapid cleaning of small laboratory items. Manufactured from stainless steel and have a durable paint finish. Can be used with all common aqueous cleaning solutions. Fitted with a 15 minute timer. For 220/240V.

	Cap (Lt)	Tank Size (mm)
BA17900 ②	0.5	140 x 80 x 60
BA17902	1.5	140 x 130 x 100
BA17904	2.5	235 x 130 x 100

LIDS for Ultrasonic Baths

BA17910	For 0.5Lt Bath
BA17912	For 1.5Lt Bath
BA17914	For 2.5Lt Bath

BASKETS. Stainless steel for Ultrasonic Baths.

BA17920 ③	For 0.5Lt Bath
BA17922	For 1.5Lt Bath
BA17924	For 2.5Lt Bath

WATER BATH. Aluminium, electrically heated circular bath with 1KW heating element, constant level device, safety plug and cable. Complete with concentric rings. Size: 127 x 203mm dia.

BA01782 ⑥

WATER BATHS - GRANT

WATER BATH 'GRANT'. P.B.I. Transparent polycarbonate tank and a removable control unit with heater and thermostat mounted under a perforated tray at the bottom of the tank. The thermostat dial is graduated in 5°C from 20 to 60°C. Temperature range: Ambient +5°C to 60°C. Capacity: 3.5lt. Working area: 225 x 120 x 80mm. For 220/240V

BA01800 ⑦



WATER BATHS, UNSTIRRED JB SERIES Polypropylene tank with heater and temperature sensors mounted under a perforated tray at the bottom of the tank. Temperature is controlled by an analogue dial graduated in 5°C from 20 to 90°C. Temperature range: Ambient +5°C to 90°C. (A lid or layer of polypropylene spheres is required for use over 60°C.)

	Model	Capacity (Lt)	Working Area (mm)
BA01805	JB1	3.5	290 x 120 x 80
BA01810	JB2	10	410 x 240 x 80
BA01812	JB4	16	305 x 240 x 80
BA01814	JB5	24	480 x 280 x 140



WATER BATHS, UNSTIRRED SUB SERIES Stainless steel tanks with heater and temperature sensors underneath the base leaving an unobstructed working area. Electronic temperature control with digital setting and display over the range of Ambient +5°C to 99°C. (A lid or layer of polypropylene spheres is required for use over 60°C.)

	Model	Capacity (Lt)	Working Area (mm)
BA01815	SUB 6	6	150 x 300 x 140
BA01818	SUB 14	14	325 x 300 x 140
BA01819	SUB 28	28	505 x 300 x 190



BOILING BATHS SBB SERIES Similar to the SUB series but with an analogue energy regulator, constant level device, two fixed cut-outs for extra safety and continuous 100°C operation when used with a lid or layer of polypropylene spheres.

	Model	Capacity (Lt)	Working Area (mm)
BA01820	SBB 6	6	150 x 300 x 110
BA01821	SBB 14	14	325 x 300 x 110
BA01822	SBB 28	28	505 x 300 x 160



ACCESSORIES FOR GRANT BATHS

GABLED LIDS, Stainless steel

BA01825	Model PB1
BA01830	Model JB1
BA01835	Model JB2
BA01836	Model JB4
BA01837	Model JB5
BA01841	Models SUB/ SBB6
BA01842	Models SUB/ SBB14
BA01843	Models SUB/ SBB28
BA01847	Polypropylene Spheres (Pk of 300)

LIDS, FLAT Stainless steel with ring sets

BA01850	Model JB2 (6 rings)
BA01851	Models SUB/ SBB6 (2 rings)
BA01852	Models SUB/ SBB14 (4 rings)
BA01853	Models SUB/ SBB28 (6 rings)

TEST TUBE RACKS, Stainless Steel for Water/Boiling Baths

BA01860	10mm tube dia. 84 holes
BA01861	13mm tube dia. 55 holes
BA01862	16mm tube dia. 36 holes
BA01863	19mm tube dia. 32 holes
BA01864	25mm tube dia. 18 holes



BATHS - NICKEL ELECTRO

WATER BATHS - UNSTIRRED. A range of thermostatically controlled baths made with durable stove enamelled metal cases and stainless steel tank. Heated by a sheathed immersion element which incorporates a safety cut-out. Supplied with illuminated on/off switch and heater indication lamp. Temperature range: Ambient to 100°C for 220/240V.

	Cap. (Lt)	Wattage	Tank Size (W x D x H) mm
BA01870	4	500	300 x 150 x 150
BA01871	8	1000	240 x 300 x 150
BA01872	14	1000	325 x 300 x 150
BA01873	22	1500	500 x 300 x 150
BA01874	28	1500	500 x 300 x 200



WATER BATHS - DIGITAL - UNSTIRRED. Similar in construction to the above. The heater is mounted below the tank giving a clear tank which is easy to clean. A manually adjustable over temperature and separate safety cut-out devices are fitted as standard. Supplied with illuminated on/off switch, heater and over temperature lamps. The measured temperature is continuously displayed in increments of one degree. Temperature range: Ambient to 100°C for 222/240V.

	Cap. (Lt)	Wattage	Tank Size (W x D x H) mm
BA01876	4	500	300 x 150 x 150
BA01877	8	500	240 x 300 x 150
BA01878	14	750	325 x 300 x 150
BA01879	22	1000	500 x 300 x 150
BA01880	28	1500	500 x 300 x 200



ACCESSORIES FOR NICKEL ELECTRO BATHS:-

WATER BATH LIDS. Stainless Steel gabled lid with an insulated handle.

BA01882	to fit 4Lt Bath
BA01883	to fit 8Lt Bath
BA01884	to fit 14Lt Bath
BA01885	to fit 22Lt & 28Lt Bath

WATER BATH TEST TUBE RACKS. Stainless steel.

BA01887	36 holes x 13mm dia.
BA01888	26 holes x 16mm dia.
BA01889	18 holes x 19mm dia.
BA01890	16 holes x 26mm dia.

WATER BATHS - STIRRED. A range of hydraulic thermostat baths made with a durable stove enamelled metal case and stainless steel tank, complete with a false base. The removable thermostirrer comes complete with a manually adjustable over temperature device, illuminated on/off switch, heater and over temperature lamps. Temperature range: Ambient to 100°C. For 220/240V. Power rating: 1200W.

	Capacity (Lt)	Working Dimensions
		(W x D x H) mm
BA01892	8	129 x 298 x 150
BA01893	14	219 x 298 x 150
BA01894	22	395 x 298 x 150



WATER BATH LIDS. Stainless steel gabled lids with an insulated handle to fit stirred baths.

BA01896	to fit 8Lt Bath
BA01897	to fit 14Lt Bath
BA01898	to fit 22Lt Bath



DATALOGGING

See Pages 34 - 42

Demonstrations available.

Please contact our sales department

BATTERIES

BATTERIES, DRY CELL,

	Voltage (V)	Type
BA01920	4.5	I289 (3R12)
BA01925	6.0	PJ996(4R25)
BA01930	9.0	PP3(6F22), Blue Seal
BA01931	9.0	PP3(6F22), Silver Seal
BA01945	9.0	PP9(6F100)
BA01950	1.5	D (HP2)
BA01955	1.5	AA (HP7)
BA01960	1.5	C (HP11)
BA01962	1.5	AAA (HP16)



BATTERIES, Alkaline Manganese

	Code	Size
BA01970	MN1604(PP3)	PP3
BA01975	MN1300(HP2)	D
BA01980	MN1500(HP7)	AA
BA01985	MN1400(HP11)	C
BA01986	MN2400(HP16)	AAA

BATTERIES, BUTTON CELLS, Silver Oxide, for watches, calculators etc.

	Type	Ever Ready Code
BA01988	SR44	BSR44H
BA01990	SR60	BSR60L
BA01991	SR54	BSR54H
BA01993	SR41	BSR41H



BATTERIES, LITHIUM MANGANESE COIN CELLS

	Code
BA01995	CR2016
BA01996	CR2025
BA01997	CR2032



BATTERIES RECHARGEABLE, Nickel Cadmium.

	Code	Size
BA02000	HP7	AA
BA02005	HP11	C
BA02010	HP2	D
BA02015	PP3	PP3
BA02016	HP15	AAA



BATTERY CHARGER 'Uniross'.

For AA, C, D and PP3 rechargeable Ni-Cad batteries. Charges up to 4 x AA, C or D size at a time, plus 1 x PP3. Incorporates LED indicators at each charge point to monitor charge status and a battery test facility. Complete with mains lead and fitted 13A plug.

BA02020

BATTERY HYDROMETER, Pipette type.

BA02025



BATTERY HOLDERS AA (HP7) Size.

BA02030	1 x AA Cell with leads
BA02031	1 x AA Cell snap terminals
BA02032	2 x AA Cell snap terminals
BA42032	2 x AA Cell with leads
BA02033	4 x AA Cell snap terminals
BA02034	4 x AA Cell flat base holder. Snap terminals



BATTERY HOLDERS C (HP11) Size.

BA02040	1 x C Cell solder tag terminals
BA02041	2 x C Cell snap terminals
BA02042	4 x C Cell snap terminals

BATTERY HOLDERS D (HP2) Size

BA02045	1 x D Cell solder tag terminals
BA02046	2 x D Cell snap terminals
BA02047	4 x D Cell snap terminals

BATTERY SNAP PP3 with leads

BA02049

BATTERY CONNECTOR PJ996, Simply clips over the battery, fitted with 4mm Black and Red terminals

BA02052

BATTERY HOLDERS TAPPED. Holds 4xD (R20) batteries with outputs at 1.5, 3, 4.5 and 6V. Batteries and leads not supplied. Each output has a 4mm socket.

BA02060



BEAKERS

BEAKERS, Borosilicate Glass. 'Bomex' 'Economy Range'. Squat form, graduated with spout.

	Capacity
BE42080 ①	100ml
BE42081	250ml
BE42082	400ml
BE02083	600ml
BE02084	1Lt



BEAKERS, 'Pyrex', Glass. Low form graduated with spout.

	Capacity	
BE02100 ②	5ml	BE02101
BE02105	10ml	BE02106
BE02110	25ml	BE02111
BE02115	50ml	BE02116
BE02120	100ml	BE02121
BE02125	150ml	BE02126
BE02130	250ml	BE02131
BE02135	400ml	BE02136
BE02140	600ml	BE02141
BE02145	800ml	BE02146
BE02150	1 Lt.	BE02151
BE02155	2 Lt.	BE02156
BE02160	3 Lt.	
BE02165	5 Lt.	



BEAKERS, Borosilicate Glass 'Simax'. Squat form, graduated with spout.

	Capacity
BE02169	50ml
BE02170	100ml
BE02178	150ml
BE02175	250ml
BE02180	400ml
BE02185	600ml
BE02190	1 Lt.
BE02195	2 Lt.
BE02197	5 Lt.

BEAKERS, HEAVY DUTY 'Pyrex' Glass. Squat form, graduated with extra thick walls, heavier bases and reinforced rims.

	Capacity
BE17950 ③	150ml
BE17951	250ml
BE17952	400ml
BE17953	600ml
BE17954	1000ml
BE17955	2000ml

BEAKERS, 'Pyrex', Glass. Tall form graduated with spout.

	Capacity	
BE02200 ④	50ml	BE02201
BE02205	100ml	BE02206
BE02210	150ml	BE02211
BE02215	250ml	BE02216
BE02220	400ml	BE02221
BE02225	600ml	BE02226
BE02230	1 Lt.	BE02231



BEAKERS, Borosilicate Glass 'Simax'. Tall form, graduated with spout.

	Capacity
BE02233	100ml
BE02234	250ml
BE02235	400ml
BE02236	600ml
BE02237	1 Lt

BEAKERS, Polypropylene. Squat form ungraduated with spout.

	Capacity
BE02239 ⑤	100ml
BE02240	250ml
BE02241	500ml
BE02242	1Lt
BE02243	2Lt
BE02244	5Lt



BEAKERS, Polypropylene. Squat form with moulded graduations and spout.

	Capacity
BE02251 ①	25ml
BE02252	50ml
BE02253	100ml
BE02254	250ml
BE02256	500ml
BE02257	1 Lt.
BE02258	2 Lt.



BEAKERS, Polypropylene 'Azlon'. Squat form with printed graduations and spout

	Capacity
BE02261 ②	50ml
BE02262	100ml
BE02263	250ml
BE02264	400ml
BE02266	600ml
BE02267	1000ml
BE02268	2000ml



BEAKERS, PMP. Transparent. Squat form graduated with spout.

	Capacity
BE02271 ③	50ml
BE02272	100ml
BE02273	250ml
BE02274	400ml
BE02276	500ml
BE02277	600ml
BE02278	1 Lt
BE02279	2 Lt



BEAKERS, STACKABLE Polypropylene 'Azlon'. Clear polypropylene stacking beakers with moulded graduations and spout.

	Capacity
BE02281 ④	25ml
BE02282	50ml
BE02283	100ml
BE02284	250ml
BE02286	500ml
BE02287	1000ml
BE02288	2000ml
BE02289	5000ml

BEAKERS, 'TRI-POUR' Polypropylene.

	Capacity
BE02290 ⑤	50ml
BE02291	100ml
BE02292	250ml
BE02293	400ml
BE02294	800ml
BE02295	1000ml

BEAKERS, Aluminium.

	Capacity
BE02300 ⑥	100ml
BE02305	250ml
BE02310	500ml
BE02315	1 Lt.



BEAKERS WITH HANDLE, Polypropylene 'Azlon', graduated with spout.

	Capacity
BE02320 ⑦	50ml
BE02321	100ml
BE02322	250ml
BE02323	500ml
BE02324	1000ml
BE02325	2000ml
BE02326	3000ml
BE02327	5000ml

BELL JARS

BELL JARS. 29/32 Socket Top.

BE02400 ⑧	200mm(Ht) x 150mm(Dia.)
BE02405	250mm(Ht) x 150mm(Dia.)
BE02410	300mm(Ht) x 200mm(Dia.)



BELL JARS, Knob top

BE02414 ⑨	300mm (Ht) x 200mm (Dia.)
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BELLOWS

BELLOWS, HAND. Single spray with non-return valve and outlet tubing.

BE02505 ⑩	65ml
BE02510	100ml

BELLOWS, HAND. With non-return valve, rigid connectors for 6mm tubing. Suitable for Orsatt apparatus. 60ml capacity

BE02520 ⑪	
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BINOCULARS

HELIOS BINOCULARS 'FIELDMASTER' A range of porro-prism binoculars offering an exceptional combination of performance, features and value. All models feature Bak-4 prisms, multi-coated optics, long-eye relief, fold back rubber eyecups and tripod adaptor bush. Supplied with neck-strap and case

BI02535	Fieldmaster 8 x 40
BI02536	Fieldmaster 7 x 50
BI02537	Fieldmaster 10 x 50



TELESCOPES

We can supply a full range of
Astronomical Telescopes



Please contact our sales department for details

BOATS

BOATS, COMBUSTION, porcelain.
BO02555 75(L) x 8(W) x 8(Ht)mm

BOTTLES

BOTTLES, REAGENT. 'TIMSTAR' Narrow mouth, clear or amber glass with interchangeable dust-proof plastic stopper.

	Capacity	Type	Stopper size
BO02570 ①	50ml	Clear	14.5 / 23
BO02580	50ml	Amber	14.5 / 23
BO02571	100ml	Clear	14.5 / 23
BO02581	100ml	Amber	14.5 / 23
BO02572	250ml	Clear	19 / 26
BO02582	250ml	Amber	19 / 26
BO02573	500ml	Clear	29 / 32
BO02583	500ml	Amber	29 / 32



BOTTLES, REAGENT. Narrow mouth, clear glass with interchangeable dust-proof Polystop stopper.

	Capacity	Stopper size
BO02600 ②	30ml	16 / 16
BO02605	50ml	16 / 16
BO02610	100ml	16 / 16
BO02615	250ml	24 / 20
BO02620	500ml	24 / 20
BO02625	1 Lt.	29 / 32

BOTTLES, REAGENT. Narrow mouth, Amber Glass with interchangeable dust proof Polystop stopper.

	Capacity	Stopper size
BO02635 ③	50ml	16 / 16
BO02640	100ml	16 / 16
BO02645	250ml	24 / 20
BO02650	500ml	24 / 20
BO02655	1 Lt.	29 / 32

BOTTLES, REAGENT. Narrow mouth, clear glass with interchangeable dust-proof ground glass stopper.

	Capacity	Stopper size
BO02660 ④	30ml	16 / 16
BO02665	50ml	16 / 16
BO02670	100ml	16 / 16
BO02675	250ml	24 / 20
BO02680	500ml	24 / 20



BOTTLES, REAGENT. Narrow mouth, amber glass with interchangeable ground glass stopper.

	Capacity	Stopper size
BO02700 ⑤	50ml	16/16
BO02705	100ml	16/16
BO02710	250ml	24/20
BO02715	500ml	24/20

BOTTLES, LABELLED REAGENT.

Glass, 250ml capacity, narrow neck, with label and plastic coating. Labels have hazard symbols and phrases where required. Bottles are of white glass with an interchangeable polypropylene stopper except those marked : 'A' = amber glass bottle, 'G' = glass stopper.

BO02725	Label
BO02726	Acetic acid, dil.
BO02727	Acetic acid, glacial
BO02728	Ammonia solution, conc.
BO02729	Ammonia solution, dil.
BO02730	Barium chloride
BO02731	Bromine water (AG)
BO02732	Copper (II) sulphate
BO02733	Ethanol
BO02734	Fehling's solution No. 1
BO02735	Fehling's solution No. 2
BO02736	Hydrochloric acid, conc. (G)
BO02737	Hydrochloric acid, dil.
BO02738	Lead (II) acetate
BO02739	Lime water
BO02740	Nitric acid, conc. (AG)
BO02741	Nitric acid dil.
BO02742	Potassium dichromate (VI)
BO02743	Potassium hydroxide
BO02744	Potassium iodide
BO02745	Potassium manganate (VII)
BO02746	Propanone
BO02747	Silver nitrate (A)
BO02748	Sodium carbonate
BO02749	Sodium hydroxide, conc.
BO02750	Sodium hydroxide, dil.
BO02751	Sulphuric acid, conc. (G)
	Sulphuric acid, dil.



BOTTLES, WINCHESTER PATTERN. Narrow screw mouth, amber glass with black plastic lined cap.

	Capacity
BO02760	100ml
BO02761	150ml
BO02762	250ml
BO02763	500ml
BO02764	1 Lt.
BO02765	2.5 Lt.

BOTTLES, WINCHESTER PATTERN. Narrow screw mouth, clear glass with black plastic lined cap. Capacity 500ml.

BO02780



BOTTLES, CULTURE (Medical Flats). Flat, clear glass bottles with narrow neck and autoclavable aluminium caps.

BO02785
BO02786

Capacity
100ml
300ml

BOTTLES, Polythene. Narrow mouth, medium wall with polypropylene screw cap.

BO02800	Capacity
BO02805	50ml
BO02810	100ml
BO02815	250ml
BO02820	500ml
	1 Lt.



BOTTLES, Polythene (Jerrican). Rectangular with handle, narrow mouth and screw cap.

BO02822	Capacity
BO02824	2.5Lt
BO02826	5Lt
	25Lt

BOTTLES, Storage. Octagonal high density polythene, graduated container with screw cap and handle.

BO02827	Capacity
BO02828	5Lt
	10Lt



BOTTLES, REAGENT. Wide neck clear glass with interchangeable ground glass stopper.

BO02829	Capacity
BO02830	100ml
BO02835	250ml
	500ml

BOTTLES, REAGENT, 'Simax'. Borosilicate glass, wide mouth, graduated with 45mm dia. blue chemical resistant polypropylene screw cap and outlet ring for drip-free pouring. Can be autoclaved up to 140°C.

BO02840	Capacity
BO02841	100ml
BO02842	250ml
BO02843	500ml
	1000ml

Spares:

BO02846	Spare Cap
BO02847	Spare Outlet Ring

BOTTLES, POWDER. Wide mouth clear glass with black plastic cap fitted with waxed liner.

	Capacity
BO02850 ①	30ml
BO02855	60ml
BO02860	125ml
BO02865	250ml
BO02870	500ml

BOTTLES, POWDER. Wide mouth amber glass with black plastic cap fitted with waxed liner.

	Capacity
BO02875 ②	30ml
BO02876	60ml
BO02877	125ml
BO02878	250ml
BO02879	500ml



BOTTLES, Extra wide mouth. Clear glass with black plastic cap fitted with waxed liner.

	Capacity
BO02880 ③	30ml
BO02885	60ml
BO02890	120ml
BO02895	250ml

BOTTLES, WIDE-MOUTH. Polythene, medium wall, polypropylene cap.

	Capacity
BO02900 ④	50ml
BO02905	100ml
BO02910	250ml
BO02915	500ml
BO02920	1 Lt.

BOTTLES, DISPENSING.

Clear glass.

BO02930 ⑤	Canada Balsam	30ml
BO02935	Canada Balsam	50ml
BO02940 ⑥	Cedar Wood Oil	50ml



BOTTLES, DROPPING 'TIMSTAR' Glass with vinyl teat, plastic interchangeable stopper and glass pipette.

	Capacity	Type	Stopper Sizes
BO02945 ⑦	50ml	Clear	14.5/23
BO02946	100ml	Clear	14.5/23
BO02947 ⑧	50ml	Amber	14.5/23
BO02948	100ml	Amber	14.5/23



BOTTLES, DROPPING. 'Polystop'. Glass with vinyl teat, plastic interchangeable stopper and glass pipette.

	Capacity	Glass	Stopper size
BO02950 ⑨	30ml	Clear	16/16
BO02955	50ml	Clear	16/16
BO02960	100ml	Clear	16/16
BO02965 ⑩	50ml	Amber	16/16
BO02970	100ml	Amber	16/16

SPARES FOR POLYSTOP DROPPING BOTTLES.

For Bottle Sizes

BO02974	Vinyl Teat	All Sizes
BO02951	Pipette	30ml
BO02956	Pipette	50ml
BO02961	Pipette	100ml
BO02952	Complete Assembly	30ml
BO02957	Complete Assembly	50ml
BO02962	Complete Assembly	100ml

BOTTLES, DROPPING. Clear glass with ground-in pipette and rubber teat.

	Capacity
BO02980 ⑪	30ml
BO02985	50ml

BOTTLES, DROPPING T.K. Clear glass with ground-in stopper.

	Capacity
BO03005 ⑫	50ml
BO03010	100ml



BOTTLES, GRADUATED DROPPING. Polyethylene, with 40mm spouted cap and dust cover.

	Capacity	Graduation
BO03015 ⑬	50ml	10ml
BO03016	100ml	20ml
BO03017	250ml	25ml
BO03018	500ml	100ml

BOTTLES, DROPPING. Polythene with screw cap and pipette.

	Capacity
BO03020 ①	30ml
BO03025	60ml
BO03030	150ml
BO03035	250ml

BOTTLES, DROPPING. Polythene with squeeze dispenser cap.

	Capacity
BO03040 ②	30ml
BO03045	60ml
BO03050	125ml



BOTTLES, PUMP DISPENSING. H.D.PE. with polypropylene cap and pump.

	Capacity	Dispenser Volume
BO03055 ③	125ml	0.5ml
BO03056	250ml	4.0ml
BO03057	500ml	4.0ml

BOTTLES, SPECIMEN. 'McCartney'. Clear Glass with aluminium screw cap and rubber liner.

	Capacity	
BO03060	7ml	BO03061
BO03065	14ml	BO03066
BO03070 ④	28ml	BO03071

BOTTLES, UNIVERSAL. Clear glass, wide neck, with aluminium screw cap and rubber liner. Capacity 25ml.

BO03080 ⑤
BO03081

SPARE CAPS. Aluminium with rubber liner.

BO03082 To fit 28ml McCartney
BO03083 To fit 25ml Universal

BOTTLES, UNIVERSAL. Soda glass with white polypropylene screw cap. Capacity 28ml.

BO03084 ⑥

BOTTLES, UNIVERSAL. Clear polystyrene with screw cap.

BO03085 ⑦ 30ml Capacity

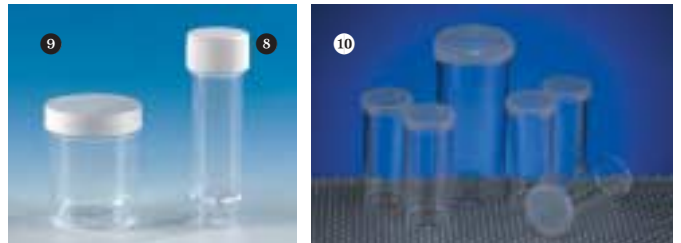


BOTTLES, SPECIMEN. Clear plastic containers with screw-on lids. Ideal for use outdoors or in the classroom. Supplied in packs of 30.

	Capacity
BO03090 ⑧	30ml
BO03091 ⑨	70ml

BOTTLES, SPECIMEN. 'Azlon'. Clear polystyrene with snap-on polythene caps.

	Capacity	Size (Dia x ht)
BO03116 ⑩	10ml	26 x 26mm
BO03117	20ml	32 x 33mm
BO03118	30ml	38 x 34mm
BO03119	75ml	51 x 42mm
BO03121	100ml	51 x 60mm
BO03122	150ml	65 x 53mm



BOTTLE CARRIERS AND RACKS

BOTTLE CARRIER. Nylon coated steel, to accommodate two 2.5Lt Winchester bottles.

BO03200 ⑪

BOTTLE CARRIER. Polythene, to take 2.5 Lt. Winchester Bottles.

BO03205 x 1 Bottle
BO03210 ⑫ x 2 Bottles

BOTTLE RACK. Nylon coated steel to hold 12 polystop dropping bottles, 50ml.

BO03212 ⑬

BOTTLE RACK. A new design, made of moulded clear perspex, to hold 6 x 60ml Glass Dropping / Reagent Bottles.

BO03216 ⑭

BOTTLE TRAY. White PVC. Size: 470 x 170 x 25mm

BO03220 ⑮



BOWLS

BOWL, Polythene. Circular. approx. 340mm dia x 130mm deep.
BO03230 ①

BOWL, Polythene. Rectangular. approx. 400 x 320 x 140mm
BO03232 ②



BOXES

BOXES, Polystyrene. Transparent, rectangular with lift-off lid, and straight sides.

BO03306 ③ 114(L) x 114(W) x 155(D)mm
BO03308 140(L) x 140(W) x 187(D)mm
BO03310 228(L) x 121(W) x 86(D)mm
BO03315 279(L) x 159(W) x 102(D)mm

BOXES, Polythene. Air-tight with snap-on lid.

BO03331 ④ 100(L) x 100(W) x 125(D)mm
BO03335 210(L) x 100(W) x 65(D)mm
BO03340 210(L) x 210(W) x 65(D)mm
BO03345 210(L) x 210(W) x 90(D)mm



BRUSHES

BRUSHES, BEAKER. Bristle, loop form on wooden handle.
BR03400 ⑤ Head size 15cm(L) x 7cm(Dia),

BRUSHES, BOTTLE. On wire handle.

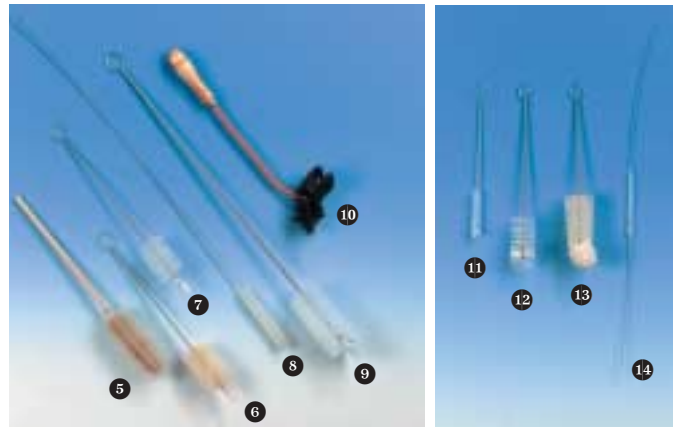
	Head (L) x (Dia.)	Overall (L)	Type
BR03410 ⑥	65 x 45mm	300mm	Bristle
BR03415 ⑦	65 x 45mm	300mm	Nylon
BR03420	75 x 50mm	350mm	Bristle
BR03425	75 x 50mm	350mm	Nylon
BR03430	100 x 65mm	400mm	Bristle
BR03435	100 x 65mm	400mm	Nylon

BRUSHES, BURETTE. Bristle on wire handle, to fit all size burettes.

BR03445 ⑧ Size of Head
 100 x 19mm

BRUSHES, CYLINDER. Nylon with fan shaped end, on strong wire handle. Overall length 650mm.

BR03455 ⑨ Size of Head
 120 x 65mm
BR03460 140 x 75mm



BRUSHES, FLASK. Bristle on curved wire. Curved head 100mm(L) x 50mm(Dia.) with hinged joint and rubber covered stem on wood handle.
BR03465 ⑩

BRUSHES, TEST TUBE. Fan shaped end on wire handle.

	Type	Dia. Tubes.
BR03470	Bristle	10 - 12mm
BR03475 ⑪	Nylon	10 - 12mm
BR03480	Bristle	16 - 25mm
BR03485 ⑫	Nylon	16 - 25mm

BRUSHES, TEST TUBE. Nylon with cotton tip on wire handle.

	Dia. Tube
BR03490 ⑬	12 - 16mm
BR03495	19 - 25mm

BRUSHES, TUBE. Nylon, with 7cm long brush in centre of wire

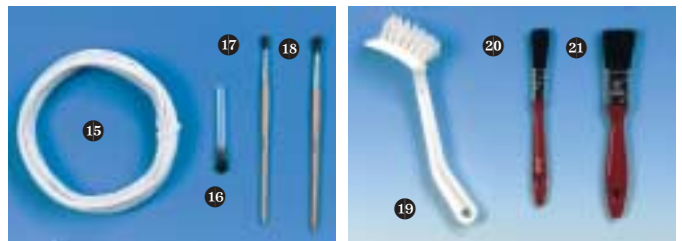
	Brush Dia.	Overall length
BR03500 ⑭	3mm	400mm
BR03505	6mm	600mm
BR03510	12mm	600mm

BRUSH, TUBE - PIPECLEANER 3mm dia.

BR03512 ⑮

BRUSHES, FLAT FORM. Hair in metal mount on wood handle.

BR03520 25mm wide



BRUSHES, ROUND FORM. Soft hair in quill mount.

	Head Dia.	Overall length
BR03525 ⑯	4mm	60mm
BR03530	8mm	80mm

BRUSHES, ARTIST. Squirrel Hair in metal mount on wood handle.

BR03540 ⑰ Size No. 4
BR03545 ⑱ Size No. 6

BRUSH, CLEANING, (Washing-up) Nylon. Length 170mm.

BR03548 ⑲

BRUSHES, PAINT. Bristle, flat form in metal mount on wooden handle.

BR03550 ⑳ 12mm wide
BR03552 ㉑ 25mm wide

BUCKETS

BUCKET. Polythene with handle.

BU03605 ① 9 Lt. Capacity

BUCKET. Black polythene with strong wire handle and wooden hand grips.

BU03610 ② 14 Lt. Capacity



BUCKETS, White polypropylene with snap-on lids, ideal for storage or collecting samples.

	Capacity
BU03620 ③	2.5Lt.
BU03622	5.0Lt.
BU03624	10.0Lt.

BURETTES

BURETTES, STRAIGHT BORE. Glass stopcock to BS846 Class B. Permanent amber stain graduations.

	Capacity
BU03650	10 x 0.1ml
BU03655	25 x 0.1ml
BU03660 ④	50 x 0.1ml
BU03665	100 x 0.2ml

BURETTES, STRAIGHT BORE. Teflon stopcock to BS 846 Class B. with amber graduations. Capacity 50 x 0.1ml.

BU03685 ⑤ Burette 50ml
BU03686 Burette 50ml Economy Grade

BURETTES, STRAIGHT BORE G.P. 'Rotaflo' stopcock to BS 846 Class B, permanent amber stain graduations. Capacity 50 x 0.1ml.

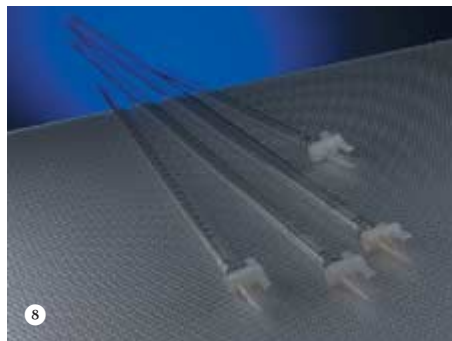
BU03710 ⑥



BURETTES, SCHELLBACH, STRAIGHT BORE with white enamel back and glass stopcock. To BS846 Class B. Capacity 50 x 0.1ml.
BU03720 ⑦

BURETTES, STRAIGHT BORE. Glass stopcock to BS 846 Class A, with amber graduations. Capacity 50 x 0.1ml.

BU03725 ④



BURETTES ACRYLIC, STRAIGHT BORE. Transparent with PMP/PE stopcock to BS 846 Class B. Suitable for most dilute aqueous solutions, but unsuitable for ethanol or organic solvents. Capacity 50 x 0.1ml.

BU03740 ⑧

BURETTE with Pinch Clip and Jet. Class B. Amber graduations. Capacity 50 x 0.1ml.

BU03760 ⑨

BURETTES. Glass to BS 846 Class B, amber graduations with interchangeable all PTFE stopcock and replaceable glass jet. 50 x 0.1ml.

BU03765 ⑩ Burette, complete
BU03766 Spare stopcock and jet
BU03767 Spare jet
BU03768 Spare tube, graduated 50 x 0.1ml

BURETTES, Automatic Zero. Clear glass, Class B with side arm, pinch clip, rubber tube and jet. Complete with polythene reservoir.

BU03770 10 x 0.1ml with 600ml reservoir

BURNERS

BURNERS, BUNSEN. Stove enamelled steel base. Air regulator and rifled gas inlet tube.

	Type of Gas	O.D. Burner Tube	
BU03775	LPG	11mm	BU03776
BU03780	N.G.	11mm	BU03781
BU03785	LPG	13mm	BU03786
BU03790 ⑪	N.G.	13mm	BU03791

BURNER, BUNSEN 'Economy'. Natural gas, 13mm O.D. burner tube.
BU03792 ⑫

FLAME SPREADERS for Bunsen Burners.

BU03795 ⑬ 11mm
BU03800 13mm



BURNER, GAS CARTRIDGE. For use with Primus Butane/Propane cartridge (not supplied). The design of the gas cartridge enables the burner to be detached and re-attached. Constructed of brass with plated steel perforated head.

- BU03821** ① Burner only
BU03823 ② Gas Cartridge (220g.)

BURNERS, MICRO with 3mm dia. burner tube. For Natural Gas.
BU03855 ②



BURNERS, WAX.

- BU03860** ③ Candle
BU03865 ④ Nightlight
BU03868 ⑤ Tapers

BURNERS, SPIRIT. Glass body with wick. Capacity 100ml

- BU03877** ⑤ Spirit Burner with plastic screw on cap
BU03881 ⑥ Spare wick. 120mm x 7mm dia.

BURNER, BLOWLAMP. 'Parasene' for butane gas, with control by needle valve.

- BU03886** ⑦ Burner with gas cylinder
BU03887 ⑧ Spare gas cylinder 185g



CAGES

INSECT CAGE. Tubular clear acrylic cage with removable perforated zinc covers. A short tube passes through each perforated cover so that plant food can be kept watered, and a thermometer can be inserted. Used for rearing larvae and observing insect behaviour. Size: 250 x 115mm dia.

CA18000 ⑧

HAMSTER CAGE. Chrome wire with plastic tray base, food dish and exercise wheel. Size: 350 x 300 x 230mm.

CA18005

MOUSE CAGE. Polypropylene base with stainless steel top, incorporating a food hopper and water bottle compartment. Supplied complete with 300ml water bottle. Size: 450 x 280 x 130mm.

CA18015 ⑨

RAT/GERBIL CAGE. Similar to above mouse cage except with 50mm raised lid. Overall size: 450 x 280 x 180mm.

CA18020



BUG CAGE. Designed specifically for keeping stick insects. Consisting of clear PVC front, top and back panels, locking door and aluminium mesh sides for climbing and ventilation. Supplied flat-packed with full instructions, liners are available to help keep the base clean. Size: 460 x 270 x 250mm

- CA18035** ⑩ Bug Cage
CA18036 ⑪ Liners

VIVARIUM (PLASTIC) - See AQ00400 on Page 5.

WORMERY. Plastic frame with clear perspex sides. Size of perspex panels: 380 x 280mm.

CA18050 ⑪



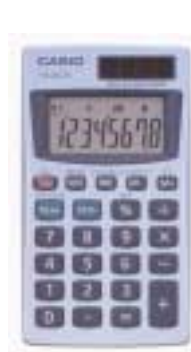
CALCULATORS

CALCULATOR, CASIO. Solar powered slim calculator with wallet, 8 digit LCD display, containing all basic functions. Size: 110 x 67 x 13mm

CA03892 ⑫

CALCULATOR, SCIENTIFIC CASIO FX83 SUPER. 10 + 2 digit LCD display containing a total of 159 functions. Powered by 2AA batteries. Size: 150 x 76 x 10mm. Supplied with hard case.

CA03893 ⑬



⑫



⑬

CENTRIFUGES.

TARGA CENTRIFUGE. Designed for the education market, having a durable steel, stove enamelled body with a four place swing out rotor complete with removable aluminium buckets, suitable for 100x16mm tubes and adaptors for 75x10mm tubes. Manually operated by maintaining finger pressure on the push button switch. The Targa has a clear acrylic lid which enables the rotor motion to be observed. Designed to meet European directives. Maximum speed 2800 rpm. Maximum acceleration 9650ms². Size (Lid closed) 315x385x220mm. For 220-240V.

CE03900 ①

THE CLIFTON LABORATORY RANGE. Two models are available, each having a durable steel stove enamelled exterior with a four place stainless steel swing out head with removable aluminium buckets, suitable for tubes 100 x 16mm and adaptors for 75 x 10mm test tubes. Both models feature a double safety catch and can only be operated with the lid correctly closed and with a safety interlock circuit preventing the lid being opened until the rotor is at rest. For 240V ac.

- Designed to meet the requirements of BS4402
- Finely balanced rotating parts ensure quietness and minimum vibration.
- Maximum speed 2800rpm
- Maximum acceleration 9350ms²
- Size: 312 x 381 x 240mm with lid closed.

CE03902 ② **Manually operated by maintaining finger pressure on a push button switch.**

CE03903 **Fitted with a 30min run back timer.**



CENTRIFUGE TUBES

NB. These tubes are too long for the Targa and Clifton Centrifuges

CENTRIFUGE TUBES, Conical. Capacity 15ml. Size 111 x 17mm.

Soda glass with rim.

CE03907 ③ **Plain tube**

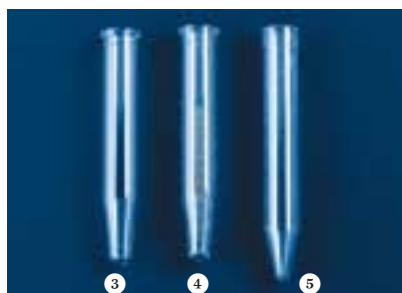
CE03908 ④ **Grad. tube 0 to 10 x 0.1ml**

CENTRIFUGE TUBES, Cylindrical. Soda glass with rim.

CE03915 ⑤ **Capacity 15ml. Size 111 x 17mm.**

CENTRIFUGE TUBES. Polythene conical with rim, graduated.

CE03945 **Capacity 15ml. Size 117 x 17mm.**



CHROMATOGRAPHY

CHROMATOGRAPHY COLUMN, supplied with delivery tube, nozzle and screw clamp. Size: 350 x 10mm dia

CH04005 ⑥



CHROMATOGRAPHY COLUMN, 'Pyrex' with 'Rotaflo' stopcock and porosity 'O' sintered disc. Stopcock bore 3mm. Overall dia. 20mm. Effective length 300mm. Socket size 19/26.

CH04010

CHROMATOGRAPHY TANK. Borosilicate glass. 230(W)x90(D)x 230(H)mm.

CH04012 ⑦ **Tank**

CH04013 ⑧ **Lid**

CHEMICALS FOR CHROMATOGRAPHY - See individual listings in Chemical Section.

HOT AIR BLOWER, (Hairdryer) with detachable blow-dry nozzle and an automatic safety cut-out. Two heat settings 1200/600W 200/240V.

CH04015 ⑨

TLC PLATES. Flexible, pre-coated with Silica Gel 60 (0.25mm thickness). Polyester backed. Can be cut with scissors. Size: 200 x 200mm. In packs of 25.

CH04017 ⑩ **TLC Plates**

CH04018 **TLC Plates with fluorescent indicator (UV254)**



TLC PLATES 'Polygram' Pre-coated. Coated with Silica Gel, average pore diameter 6nm, layer thickness 0.25mm with fluorescent indicator. Can easily be cut with scissors forming smaller plates which may be used to facilitate the further development of a given spot. The plates can be rolled to fit into chromatography cylinders. The carrier sheet is polyester, 0.2mm thick and is resistant to all organic solvents commonly used in TLC. In packs of 50

CH44017 ⑪ **Size (mm)**

CH44018 **80 x 40**

50 x 200

CHROMATOGRAPHY TEACHING KIT A self contained kit which uses miniature tanks to give separations in 5 - 10 minutes. The basic principles are covered by the separation of three dyes, singly and in mixtures, followed by the separation and detection of two amino acids. This is put to practical use by showing the effect of trypsin upon a protein, with the effects of pH upon this action also being illustrated. Amino acids and proteases in plant materials can also be demonstrated. For use by 5 students or groups with full instructions.

BK88100

CHROMATOGRAPHY PAPERS

CHROMATOGRAPHY PAPER SHEETS. 'Whatman Grade 1'

Boxes of 100.

	Size (cm)
CH04020 ①	10 x 30
CH04025	20 x 20
CH04030	25 x 25

CHROMATOGRAPHY PAPER SHEETS. 'Whatman Grade 1'.

Pattern 'CRL'. 11 x 21.3cm with eleven 3mm wide slots. Boxes of 100 sheets.

CH04060 ②

CHROMATOGRAPHY PAPER. 'Whatman Grade 1' in reels of

100M.

	Width of reel.
CH04096 ③	10mm
CH04098	20mm
CH04100	30mm
CH04105	40mm
CH04110	50mm
CH04120	100mm
CH04130	150mm



CLEANING

CLEANING COMPOUNDS

DECON, DECOMATIC. A phosphate free, liquid surfactant specially formulated for use in laboratory glassware washing machines. It is an alkaline and not suitable for use on non-ferrous metals.

CL04190

DECON, ACID RINSE. A non-foaming, free rinsing biodegradable formulation for use in automatic washing machines. Not suitable for use on non-ferrous metals.

CL04195

DECON 90. A surface acting cleaning agent which is phosphate free, biodegradable, totally rinseable and non-flammable. Not suitable for use on non-ferrous metals.

CL04200

CL04201

DRI-DECON. A surface active cleaning agent in granular form specially formulated for use in automatic glass washing machines. It is an alkaline and not suitable for use on non-ferrous metals.

CL04202

DECON, NEUTRACON. A phosphate free, biodegradable surfactant producing a near neutral solution in water. Suitable for cleaning all non-ferrous metals, such as aluminium, zinc, copper, silver, etc.

CL04203

CL04204

TEEPOL. Concentrated detergent

CL04205

CL04206



DETTOL, Disinfectant

CL04208

BLEACH, Domestic, thick.

CL04215



DISINFECTANT, Pine.

CL04220

DISINFECTANT, VIRKON. A Virucidal disinfectant that kills all 17 virus families. It is an excellent bactericide and fungicide and can be applied in powder form direct to spillages of blood and other body fluids. It easily dissolves to make an inexpensive liquid disinfectant.

CL04222

CL04223

DETERGENT, DISHWASHER 'Finish'.

CL04225 Powder

CL04226 Rinse Aid

CL04227 Salt

HAND CLEANSER, Swarfega.

CL04229



CLEANING MATERIALS

CLOTHS, DRYING. (Glass Cloths). Linen.
CL04230 ①

CLOTHS, POLISHING. Yellow, close texture. 500 x 400mm
CL04240 ②

CLOTHS, SWABBING. Open mesh.
CL04245 ③

TISSUES 'Kleenex'. White, 2 ply absorbent tissues. Dispenser carton of 100 tissues. Size 220 x 210mm
CL04250 ④

TISSUES, 'Kleenex'. Medical wipes, 2 ply absorbent white tissues. Cartons of 76 sheets. Size 220 x 120mm
CL04255 ⑤

TISSUES, 'Kimwipes'. White 2 ply absorbent tissues. Cartons of 150 sheets. Size 425 x 375mm
CL04260 ⑥



WIPES, BACTERICIDAL. For disinfection of hard surfaces. In tubs of 160 wipes 200 x 220mm.
CL04262 ⑦

TISSUES, ABSORBENT ROLL (Kitchen).
CL04265

DUSTPAN and BRUSH, Plastic
CL04268 ⑧



TISSUES, LENS CLEANING. 'Whatman 105'.

CL04270 150 x 100mm
CL04275 150 x 100mm
CL04280 300 x 200mm



CLINOSTAT

CLINOSTAT. Ideal for studies on geotropism and phototropism on seedlings etc. Revolves once every 12 minutes in the vertical or horizontal planes. Mounted on a strong, stable base, adjustable to any angle with a clear plastic cover. For 240V
CL04298



EYESHIELDS, GLOVES & ALL SAFETY EQUIPMENT



See Pages
135 - 138

CLIPS

CLIPS, MOHR. Plated metal.

	Max. tube Dia.
CL04300 ¹	11mm
CL04305	15mm
CL04310	19mm

CLIPS, OPEN SIDED. Plated Metal. Max tube dia. 12mm.

CL04315 ²

CLIPS, HOFFMAN, Plated metal with clamping screw and hinged bar.

	Max. tube dia.
CL04320 ³	20mm
CL04325	25mm
CL04330	30mm

CLIPS, HOFFMAN. Acetal resin, sterilisable, acid and alkali resistant.

CL04350 ⁴ Max. tubing dia. 14mm



CLIPS. Polypropylene with ratchet closure. Tubing up to 10mm dia.

CL04355 ⁵

CLIPS, SPRING. Stainless steel and acetal copolymer.

	Max. tube dia.
CL04360 ⁶	8mm
CL04365	12mm

CLIPS, TUBING. Worm drive, plated steel.

	Int. dia. range
CL04370 ⁷	8/12mm
CL04375	12/20mm
CL04380	16/25mm
CL04385	20/32mm



CLIPS, TUBING. Double stainless steel band.

	Int. dia. range
CL04400	10 - 14mm
CL04405	13 - 17mm
CL04410	18 - 22mm
CL04415	21 - 25mm

CLIPS, BULLDOG, 70mm Jaw
CL04462



CLIPS, JOINT. For Quickfit Glassware. Will support a full 1Lt. flask without using a clamp at temperatures up to 50°C ambient and 80°C through the joint itself.

	Joint size	Colour
CL04466	10/19	Mint
CL04468	12/14	Violet
CL04470	14/23	Yellow
CL04475	19/26	Blue
CL04480	24/29	Green
CL04485	29/32	Red

CLOCKS

CLOCK MOVEMENTS. A self-assembly quartz clock movements, including hour, second and minute hands. Requires 1xAA battery.

CL04490 ⁸

CLOCK, WALL Quartz, battery operated with sweep second hand.

CL04495 ⁹	250mm dia
CL04496 ¹⁰	400mm dia

ATOMIC WALL CLOCK. An atomic wall clock 270mm dia. with sweep second hand that offers the ultimate in time keeping - an accuracy of one second in a million years. Containing an integral antenna which is set to pick up the time code signal from B.T. Powered by 1 x AA battery.

CL04498 ¹¹



STOPCLOCKS & STOPWATCHES

See Pages 158 - 159



COLORIMETERS

COLORIMETER 'WPA C07500' COLOURWAVE A robust, easy to use colorimeter making colourwave ideal for beginners, with 8 filters covering the range 440 to 700nm which are held in the integral filter wheel. Readings can be displayed as absorbance units or % transmission with one button push. When switched to kinetic mode readings are continuously displayed and can be output via the analogue and digital ports. Accepts both 10mm² cuvettes or 16mm diameter tubes.

Specification: **Range:** -0.3A to 1.99V for 0 to 199%T. **Wavelength:** 400 to 700nm. **Bandwidth:** 40nm. **Output:** 0 to 2V for 0 to 2A, 0 to 1.99V for 0 to 199%T, RS232. **Size:** 180 x 150 x 60mm

CO04570 C07500 Colorimeter.

Accessories

- CO04572** Spare Filters set
- CO04574** Spare Lamps
- CO04554** Cuvettes plastic 10mm x 10mm

FOR NEW DATALOGGING COLORIMETER
SEE PAGE 39



COMPASSES

COMPASS, PLOTTING. 16mm dia. Dial marked with principle points of the compass.

CO04600 ①

COMPASS, PLOTTING. 19mm dia., with two clear glass faces.

CO04605 ②

COMPASS, POCKET. 40mm dia. Dial marked with points of the Compass every 10 degrees.

CO04607 ③



ORIENTEERING COMPASSES 'SILVA'

SILVA FIELD 7 Ideal first compass for educational requirements. Graduation: 360 x 2°. Scale: mm, 1:50k and 1:25k. Size: 75 x 50mm
CO04620

SILVA RANGER 3 A compass for more experienced users, with a built in magnifier and luminous marks to aid night use, Graduations: 360 x 2°. Scale: mm, 1:50k and 1:25k. Size 100 x 54mm.
CO04622

SILVA EXPEDITION 4 A compass for experienced users with built in magnifiers and luminous points. Graduations: 360 x 2° Scales: 1:25k, 1:50k, 1:63:63k, mm and inches. Size 125 x 60mm
CO04624



CONDENSERS

CONDENSER, LEIBEG. Borosilicate Glass.

CO04648 ④ Effective length 250mm

CO04650 Effective length 500mm

CONDUCTIVITY

CONDUCTIVITY METER.' W.P.A. CM35'. A compact portable analogue meter. An integral handle doubles as a tilt stand for bench use. Covers conductivities from 1γS to 0-1S. Output is provided for linking the meter to a chart recorder or via a suitable interface to a P.C. Powered by one 9V PP3 battery. Battery check facility incorporated. Supplied with a general purpose conductivity dip cell (K=1.0). Size: 60 x 130 x 210mm.

CO04700 ⑤ CM35E Conductivity Meter with Cell

Accessories:-

CO04704 Mains Adapter



CONDUCTIVITY METER 'HANNA CONMET 1'. A pocket sized stick meter with digital display, automatic temperature compensation and a '4-ring' probe sensor which means no need to change cell constants. Range 0-1999 μ S. Resolution 1 μ S. Accuracy \pm 2% full scale. Operating temperature 0-50°C. Supplied complete with calibration solution and storage case.

CO04716 ① **CONMET 1**

CO04718 Replacement Probe

CO04714 Calibration Solution 1413 μ S/cm

See also PH20700 on Page 121 .

CONDUCTIVITY TESTERS, 'HANNA DIST'. Four low cost pocket testers with a smooth easy to hold case incorporating a large LCD display. Each meter measures in a different range; Dist 1 and 2 read Total dissolved solids, the Dist 3 and 4 measure conductivity. All meters have automatic temperature compensation and can be calibrated at one point, to give an accuracy of \pm 2% full scale. Supplied with batteries and calibration screwdriver. Size: 175 x 41 x 23mm.

CO04730 ② **Dist 1** 0-1999ppm

CO04732 **Dist 2** 0-10.00ppt

CO04734 **Dist 3** 0-1999 μ S/cm

CO04736 **Dist 4** 0-19.99mS/cm



CONTROL

ROBOT KITS These build your own kits require no soldering and are easy to assemble. Complete with instructions and are ideal for learning about electronics and mechanical engineering.

HYDRAZOID Reacts to sound by impulses such as clapping of hands and will move forward for 15 seconds and will then stop to await another sound command. Size: 180(H) x 155(L) x 130(W)mm. Requires 2 x AA Batteries (not supplied)

CO04750



SOUNDTRACKER Reacts to the sound impulses and objects in its path. When it detects a sound or hits an obstacle, it will reverse away at high speed, then turn to it's right and race off. Size: 95(H) x 125(L) x 140(W)mm. Requires 2 x AA Batteries (not supplied)

CO04752



ANTOID. Detects objects with its infra-red eye and moves accordingly. The ANTOID is a life-like robot that takes note of its environment, then walks forward with its six insect like legs and avoids all objects in its way Size: 150(H) x 150(L) x 180(W)mm. Requires 2 x AA Batteries (not supplied)

CO04754



TRIBOTZ. Three robots in one.

Avoider Mode where on-board sensors help to avoid obstacles.

Sound Operating Mode where it changes direction in response to sound impulses.

Line Tracker Mode where on-board sensors enable it to follow a line.

Size: 120(H) x 148(L) x 160(W)mm. Requires 1 x 9V and 2 x AA Batteries (not supplied)

CO04756



CORK

CORK RINGS. Compressed for supporting flasks etc. Thickness 45mm.

	Ext. & Int. Dia.
CO04800	75 x 45mm
CO04805	115 x 85mm
CO04810	150 x 120mm
CO04815	195 x 160mm
CO04820	240 x 200mm

CORK SHEETS. Size 300 x 300 x 5mm

CO04825

CORKS, BARK. Tapered.

	Bottom Dia.	Pack Size
CO04830	6mm	100
CO04835	8mm	100
CO04840	10mm	100
CO04845	12mm	100
CO04850	14mm	100
CO04855	16mm	100
CO04865	19mm	25
CO04867	21mm	25
CO04870	22mm	25
CO04875	25mm	25
CO04880	29mm	25
CO04885	32mm	25
CO04890	35mm	25
CO04895	38mm	10
CO04900	42mm	10
CO04905	45mm	10
CO04910	48mm	10
CO04915	50mm	10



CORKS, BARK. Tapered. Assorted pack of 150.

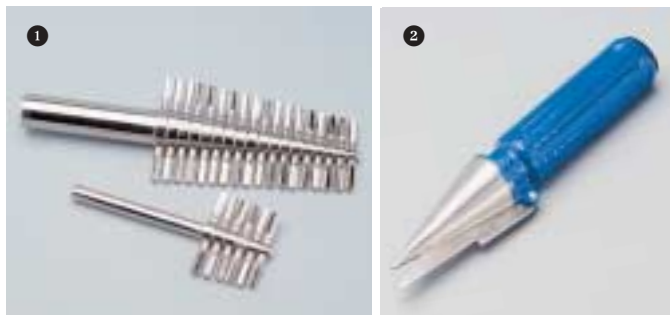
CO04925

CORK BORERS. Brass nickel plated with cleaning rod.

	Set of No's.	Cutting Range.
CO04930	1 - 6	4 - 10
CO04935	1 - 12	4 - 18
CO04940	1 - 18	4 - 27

CORK BORER SHARPENER

CO04945



COTTON WOOL

COTTON WOOL. Absorbent white. Hospital quality. In packs of 500g.

CO05000

COTTON WOOL. Non-absorbent. In packs of 500g.

	Colour
CO05005	White
CO05010	Blue
CO05015	Green
CO05020	Pink
CO0502	Red
CO05030	Yellow

COTTON WOOL BUDS

CO05032

MUSLIN. Absorbent white. In rolls of 90cm x 5M.

CO05040



COUNTERS

COUNTERS, TALLY. 0 to 9999, in a chrome plated steel case with zero reset control.

CO05060	Hand held
CO05062	Bench mountable



CRUCIBLES

CRUCIBLES, Nickel. Tall form without lid.

	Capacity	Dia. x Ht.
CR05100 ¹	10ml	25 x 24mm
CR05105	15ml	30 x 29mm
CR05110	25ml	35 x 34mm
CR05115	30ml	40 x 38mm

CRUCIBLE LIDS, Nickel.

	Crucible Cap.
CR05120 ²	10ml
CR05125	15ml
CR05130	25ml
CR05135	30ml

CRUCIBLES, Porcelain. Grade A, squat form without lid.

	Capacity	Dia. x Ht.
CR05140 ³	6ml	30 x 19mm
CR05145	11ml	35 x 22mm
CR05150	15ml	40 x 25mm
CR05155	25ml	45 x 28mm
CR05160	50ml	60 x 38mm



CRUCIBLE LIDS, For squat form crucibles.

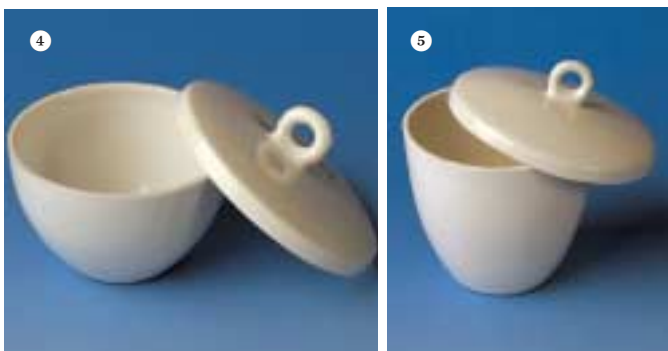
	Crucible Cap.
CR05165	6ml
CR05170	11ml
CR05175	15ml
CR05180	25ml
CR05185	50ml

CRUCIBLES, Porcelain, 'Economy Grade' complete with lid, having ringed handle.

	Type	Capacity	Dia. x Ht.
CR05190 ⁴	Squat	15ml	43 x 23mm
CR05191	Squat	25ml	47 x 27mm
CR05195	Tall	18ml	37 x 31mm
CR05196 ⁵	Tall	25ml	40 x 36mm

CRUCIBLES, Porcelain. Grade A, tall form without lid.

	Capacity	Dia. x Ht.
CR05210 ⁶	15ml	35 x 28mm
CR05215	20ml	40 x 32mm
CR05220	49ml	50 x 40mm



CRUCIBLE LIDS. For tall form crucibles.

	Crucible Cap.
CR05235	15ml
CR05240	20ml
CR05245	49ml

CRUCIBLES Silica 'Vitreosil'. Translucent, low form without lid.

	Capacity	Dia. x Ht.
CR05255	10ml	38 x 19mm
CR05260	15ml	41 x 25mm
CR05265	25ml	47 x 28mm

CRUCIBLE LIDS Silica 'Vitreosil'. For low form crucibles.

	Crucible cap.
CR05280	10ml
CR05285	15ml
CR05290	25ml

CUPS

CUP, Expanded Polystyrene. Conical shape, 82 x 75mm (Ht x Top dia.). Capacity 200ml. Complete with lid. Suitable for use as a simple calorimeter.

CU05395 ⁷

CUP, Plastic. Conical shape, 80 x 70mm (Ht x Top dia.). Capacity 200ml. Suitable for use as a simple, low thermal calorimeter.

CU05396 ⁸



CRUCIBLE TONGS

See Page 161

PIPECLAY TRIANGLES

See Page 165

CYLINDERS

CYLINDERS. Economy range. Glass body, graduated with spout.

	Capacity		
CY18200	10	x	0.2ml
CY18201	25	x	0.5ml
CY18202	50	x	1.0ml
CY18203	100	x	1.0ml
CY18204	250	x	2.0ml
CY18205	500	x	5.0ml
CY18206	1000	x	10.0ml

CYLINDERS. Glass body graduated with spout to BS 604. Class B.

	Capacity		
CY05400	5	x	0.1ml
CY05405	10	x	0.2ml
CY05410	25	x	0.5ml
CY05415	50	x	1.0ml
CY05420	100	x	1.0ml
CY05425	250	x	2.0ml
CY05430	500	x	5.0ml
CY05435	1000	x	10.0ml
CY05440	2000	x	20.0ml

CYLINDERS. Glass body graduated with polypropylene stopper.

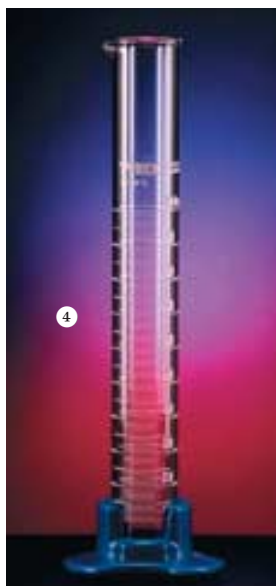
	Capacity		Stopper Size
CY05441	5	x	0.1ml 10/13
CY05442	10	x	0.2ml 10/13
CY05443	25	x	0.5ml 10/13
CY05444	50	x	1.0ml 14/15
CY05445	100	x	1.0ml 14/15
CY05446	250	x	2.0ml 19/17
CY05447	500	x	5.0ml 24/20
CY05448	1000	x	10.0ml 34/35

CYLINDERS, 'Pyrex'. Graduated with spout and detachable plastic foot.

	Capacity		
CY05470	10	x	0.2ml
CY05475	25	x	0.5ml
CY05480	50	x	1.0ml
CY05485	100	x	2.0ml
CY05490	250	x	2.0ml

CYLINDER PROTECTORS, Sponge Rubber:

CY05494	For 25ml Cylinders
CY05495	For 50ml & 100ml Cylinders
CY05496	For 250ml Cylinders

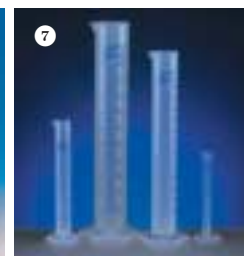


CYLINDERS, Polypropylene. Moulded graduations.

	Capacity	Grads.
CY05500	10ml	0.2ml
CY05505	25ml	0.5ml
CY05510	50ml	1.0ml
CY05515	100ml	1.0ml
CY05520	250ml	2.0ml
CY05525	500ml	5.0ml
CY05530	1Lt.	10.0ml
CY05535	2Lt.	20.0ml

CYLINDERS, Polypropylene with blue graduations.

	Capacity	Grads.
CY18250	10ml	0.2ml
CY18251	25ml	0.5ml
CY18252	50ml	1.0ml
CY18253	100ml	1.0ml
CY18254	250ml	2.0ml
CY18255	500ml	5.0ml
CY18256	1Lt.	10.0ml
CY18257	2Lt.	20.0ml



CYLINDERS, Transparent PMP. Moulded graduations. Resistant to 180°C

	Capacity	Grads.
CY05540	10ml	0.2ml
CY05545	25ml	0.5ml
CY05550	50ml	1.0ml
CY05555	100ml	1.0ml
CY05560	250ml	2.0ml
CY05565	500ml	5.0ml
CY05570	1Lt.	10.0ml
CY05575	2Lt.	20.0ml

CYLINDERS, Transparent PMP with blue graduations.

	Capacity	Grads.
CY18260	10ml	0.2ml
CY18261	25ml	0.5ml
CY18262	50ml	1.0ml
CY18263	100ml	1.0ml
CY18264	250ml	2.0ml
CY18265	500ml	5.0ml
CY18266	1Lt.	10.0ml
CY18267	2Lt.	20.0ml



DATALOGGING

Timstar in conjunction with ScienceScope now offer a comprehensive range of Datalogging equipment for use in Primary and Secondary education.

All Datadisc and Logbook products are compatible with the Philip Harris™ range of Datalogging equipment.

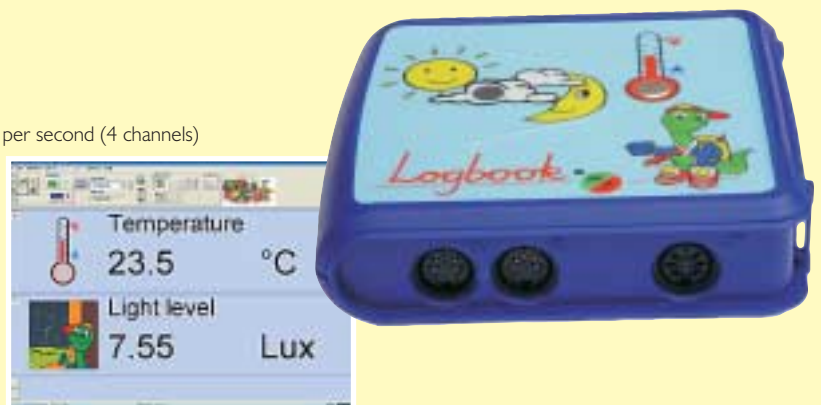
PRIMARY DATALOGGING

LOGBOOK PRIMARY LOGGER suitable for Primary KSI/2 Logging and Control

The Logbook is both easy to use and set up, with its in-built sensors, robust construction and single button operation which make it an ideal Primary logger.

LOGBOOK SPECIFICATION

- Built in temperature sensor 0-50 °C
- Built in light sensor 0-110,000 Lux
- Maximum sample rate - 8 samples per second (4 channels)
- Starting sample rate for remote recordings - 8 samples per second (4 channels)
- 2 sensor inputs
- 801 data points maximum (4 channels)
- Maximum recording length 9.5 days
- Serial or USB interface
- 1 9V PP3 battery or external power adapter
- Over 300 typical recordings per battery
- Real Time Clock



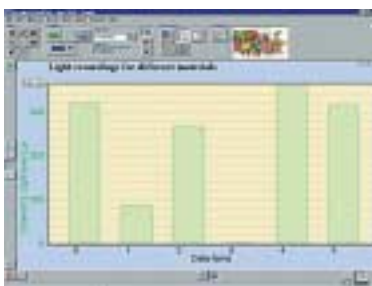
DATADISC GRAPHPAD

KEY STAGE 2 AGES 7-11

Graphpad is an easy to use datalogging and control software package. With its use of large fonts and easily recognisable characters Graphpad guides you through a variety of available modes, such as meter, graph, bar or tables. For use with Logbook dataloggers, Graphpad will allow recording from up to 4 sensors. Axes are labelled using full description phrases, such as 'Time in Seconds'. Graphpad software also allows you to 'predict a log' or manually add your own information through spreadsheet entry.

One button copy and paste to WORD

One button copy and paste data from a table to EXCEL



BAR GRAPH MODE



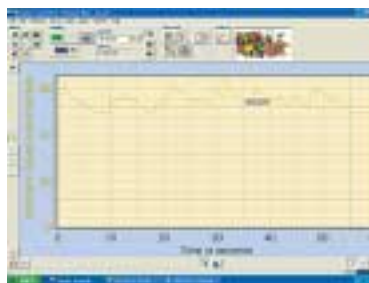
CLOCK, STOP CLOCK MODE



CONTROL MODE



METER MODE



LINE GRAPH MODE



TABLE MODE

Logbook Starter Pack

All you need to begin data logging in a handy carry case, including:

- Primary Logbook with in-built temperature and light sensors.
- Comprehensive Teacher guide lesson plans and Photocopiable workcards (no extra probes required), in print and on disc.
- Power adapter for use in the classroom and battery installed.
- Serial lead to connect with IBM PC compatible computers.
- Graphpad software with master licence.
- Remote logging
- Control port



DA20000

Logbook Starter Pack with Control

Logbook Starter Pack complete with a light stick set for control by Graphpad software and sensors. Logbook has a control port and there is a Control Window in the Graphpad software to carry out simple ICT control and monitoring tasks for KS2.



DA20005

Logbook Starter Pack with Sound

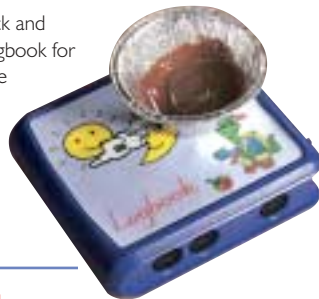
Logbook Starter Pack complete with a sound level sensor, so students can measure the noise levels on roadside or in the school.



DA20010

Logbook Extra Pack

For use in conjunction with the starter pack and master licence and consists of an extra Logbook for the school with an additional licence to use Graphpad on another PC, so containing all you need to begin logging in a second classroom.



DA20015

Extend Logbook and Graphpad to Key Stage 3

Upgrade Graphpad software to Datadisc Explore and get extra functions needed for more advanced data logging, including line of best fit functions, sound wave recording on a multi-media PC, tiled or overlaid graphs, with unique multiple calibrated axes.



DA20020

Logbook Advanced Control Pack

This pack comes complete with Datadisc Control software, the Light Stick set and an extra light sensor. A fully working traffic light sequence can be set up using the light sensors as inputs and the Light Sticks as traffic lights.



DA20025

Accessories for Logbook and Datadisc Graphpad

- DA20050** Graphpad site licence
- DA20052** Graphpad additional user licence
- DA20060** Datadisc Explore upgrade from Graphpad
- DA20402** Datadisc Explore additional user licence
- DA20250** Logbook Carry Case
- DA20252** Power Adapter
- DA20254** Serial Cable
- DA20256** USB Connector
- DA20440** Datadisc Control
- DA20310** Light Sensor
- DA20315** Sound Sensor
- DA20340** Temperature Probe
- DA20360** Pulse Sensor
- DA20365** Light Stick Set



SECONDARY DATALOGGING

Logbook SE

The Logbook SE is both easy to set up and use. With its in-built sensors and robust construction the Logbook SE is suitable for curriculum requirements both in and out of the class room. The Logbook SE starter pack includes: built-in temperature and light sensors, remote logging capability, built in timing functions, built in real time clock and a built in control port.

With its simple single button operation the Logbook SE allows even the most inexperienced user to perform a number of experiments either connected directly to the PC or remotely in the field. The Logbook SE has two built-in sensors; light and temperature, so you can begin datalogging out of the box without any additional connections. Logbook SE is suitable for Biology, Chemistry and Physics departments to GCSE level. The Logbook SE can log remotely for up to 9 days. The built-in real time clock gives the user the ability to associate events with the time and dates on which they occurred. The built-in timing functions in Logbook SE allow the user to carry out a range of investigations, including:

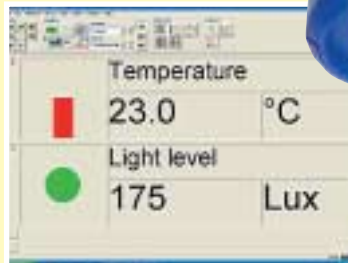
- Establish a value for 'g' by freefall
- Measure the speed of sound

With its ease of operation, wide range of datalogging capability and comprehensive Teacher guide and lesson plans (both photocopy free) the Logbook SE gives both teachers and students the chance to capture and analyse data quickly, efficiently and easily within the budget of today's schools.



LOGBOOK SPECIFICATION

- Built-in temperature sensor 0-50 °C
- Built-in light sensor 0-110,000 Lux
- Maximum sample rate - 8 samples per second (4 channels)
- Starting sample rate for remote recordings - 8 samples per second (4 channels)
- 2 sensor inputs
- 801 data points maximum (4 channels)
- Maximum recording length 9.5 days
- Serial or USB interface
- 1 9V PP3 battery or external power adapter
- Over 300 typical recordings per battery
- Real Time Clock and timing features (better than 1ms resolution)



Logbook SE Starter Pack

All you need to begin data logging including:

- Logbook SE with strong carry case
- Datadisc Explore software and master licence
- Power adapter
- Battery for remote logging
- Serial lead supplied to connect with Windows computers
- Teacher guide/ lesson plans

DA20100



Logbook SE Extra Packs

Logbook SE extra packs are for use in conjunction with the starter pack with its master licence. All Logbooks are supplied in a case with a power supply and serial lead. Please choose from the following:-

LOGBOOK SE EXTRA PACK

This includes a Logbook SE for the school and an additional user licence to use Datadisc Explore on another PC. All that you need to begin logging in class sets.

DA20105

LOGBOOK SE EXTRA GROUP PACK

Four Logbook SE data loggers with Datadisc Explore User licences

DA20110

LOGBOOK SE EXTRA CLASS PACK

Nine Logbook SE data loggers with Datadisc Explore User licences

DA20115

Logbook XD

Logbook XD with its simple two-button operation and robust construction can be used for a wide range of remote recording from use in the field for up to one month continuous recording to a fast pre-triggered remote recording. The Logbook XD can also be connected to a computer for use as a fast logging interface.



The Logbook XD can be used with up to four Logbook sensors. The LCD display with the Logbook XD indicates the status of the battery, file usage, sensor ports in use and recording mode.

The Logbook XD has an eight-file memory for remote use, with the ability to record from 2000 points on one channel to 500 points on each of four channels. Remotely, fast recording with triggering, enables the user to easily investigate dropping a magnet through a coil. Logbook XD offers a wide variety of recording types, for example:

- Auto recording allowing data to be collected over a long period of time
- Triggered recording, using a light sensor to start the recording at sunrise
- Event recording to monitor investigations such as the angular distribution of light from a lamp.
- Frugal recording, which is particularly effective for monitoring animal behaviour.

Remote recording types are programmed using Datadisc software.

For security the Logbook XD has an optional 'erase lock' which prevents files being erased remotely.

The Logbook XD offers the advanced user a fast, programmable remote datalogger with up to four external inputs spanning Biology, Chemistry and Physics, providing versatile and accurate sensing and monitoring solutions for schools. Supplied with a comprehensive (photocopy free) Teacher guide and lesson plans.

LOGBOOK XD SPECIFICATION

- Datadisc compatible
- 12 segment status display
- 2 user buttons
- 8 file memory
- 9V PP3 battery included
- Mains adaptor available
- Serial or USB communications with a PC
- 4 inputs for Datadisc compatible sensors
- Auto recognition for all compatible sensors
- 200 typical recordings per battery



Au meter screen

Remote Mode:

- Maximum number of data points: 2000/1 channel, 1000/2 channels, 500/4 channels
- Minimum recording interval 3.9ms for four channel operation and 2ms for single channel operation.
- Recording modes: Auto, Triggered, Frugal, Event

PC Connected Operation:

- Minimum recording interval
- 62 micro seconds for 207 points on one channel
- 5 ms for 5000 points on 2 channels
- 10 ms for 5000 points on 4 channels
- Wide range of recording types and facilities provided by Datadisc

Logbook XD Starter Pack

Starter pack includes:

- Logbook XD with strong carry case
- Datadisc Explore software and master licence
- Power adapter
- Battery for remote logging
- Serial lead supplied to connect with windows computers
- USB option
- Teacher guide/lesson plans

DA20200



Logbook XD Extra Packs

Logbook XD extra packs are for use in conjunction with the starter pack with its Master licence. Each Logbook is supplied with a carry case, power supply and serial lead.

LOGBOOK XD EXTRA PACK

This includes a Logbook XD for the school and an additional licence to use Datadisc Explore on another PC. All that you need to begin logging in class sets.

DA20205

LOGBOOK XD EXTRA GROUP PACK

Four Logbook SE dataloggers with Datadisc Explore licences

DA20210

LOGBOOK XD EXTRA CLASS PACK

Nine Logbook XD dataloggers with Datadisc Explore licences

DA20215

LOGBOOK ACCESSORIES

- **DA20250** Logbook Carry Case
- **DA20252** Power Adaptor
- **DA20254** Serial Cable
- **DA20256** USB Connector

Logbook ML

Logbook ML is aimed at the keen remote datalogger user and for use from Key Stage 3 through to A Level. The logbook ML incorporates a LCD display, three internal sensors and an 8-file memory.

The display can be used for a number of functions:

- Meter mode. Displays sensor values in the appropriate scientific units for all four channels. Auto recognition of all Logbook and compatible sensors.
- Recording mode. Display sensor values and recording status. Allows selection of Auto and Snapshot recording types.
- File Status. Displays file utilisation.
- Logger status. Display time, date and battery status.
- Timing functions support Datadisc and Logbook Timing applications.

The Logbook ML has three internal sensors as standard: temperature (incorporating a temperature probe), light and sound sensor with two additional external inputs with auto-recognition of all Logbook sensors.

The Logbook ML has an eight internal memory for remote use. Each file can record up to 501 points on four channels. Used with a PC the Logbook ML can record continually at a sample rate better than 20ms in remote use, the Logbook ML uses a simple three button operation user interface.

The Logbook ML has an optional erase lock, which prevents files being erased when used remotely.

The Logbook ML is one of the most comprehensive dataloggers in the market providing key function and requirements for today's teaching needs.

LOGBOOK SPECIFICATION

- 2 line 16 character alphanumeric display
- 3 Button operation
- Built-in light sensor 0-99,000 Lux
- Built-in sound sensor 50 to 110 dB
- Built-in temperature sensor 0 to 50°C and external input dedicated to a temperature probe-10 to 110°C (supplied)
- 2 sensor inputs with auto recognition
- Intuitive user interface / 4 channel meter display / logging control screen / file status screen / logbook status screen / real time clock.
- Remote mode - can record up to 501 data points per channel over upto 47 days.
- Snapshot recording - can record upto 250 data points over upto 3 days
- PC connected operation - Minimum recording interval is better than 20ms for 5000 data points on 4 channels
- Optional erase lock
- Serial or USB interface
- Powered by 1 x 9V PP3 battery, or external power adaptor (supplied).

Logbook ML Starter Pack

Starter pack includes:

- Logbook ML with strong carry case
- Datadisc Explore Ag software and master licence
- Power adaptor
- Battery for remote logging
- Serial lead supplied to connect with windows computers
- USB option
- Teacher guide/lesson plans



DA20220

Logbook ML Extra Pack

Logbook ML extra packs are for use in conjunction with the starter pack with its master licence. Each logbook is supplied with a carrycase, power supply and serial lead.

LOGBOOK ML EXTRA PACK

This includes a Logbook ML for the school and an additional user licence to use Datadisc Explore Ag on another PC. All that you need to begin logging in class sets.

DA20225

LOGBOOK ML EXTRA GROUP PACK

Four Logbook ML dataloggers with Datadisc Explore Ag licences

DA20230

LOGBOOK ML EXTRA CLASS PACK

Nine Logbook ML dataloggers with Datadisc Explore Ag licences

DA20235

HandyMeter

The HandyMeter now gives the user the ability to turn any ScienceScope sensor into a stand alone fully functional digital meter. It is also ideal for use with dataloggers with no display (for example. Logbook SE, XD and CL200) or direct to a PC

- Auto recognition sensor input from any logbook, First Sense, Hand Sense and Cube Sensors.
- Accurate readings are displayed showing sensor names and the SI units of data.
- Output to any Sciencscope datalogger
- USB port to enable direct metering and logging on a PC using Datadisc and including the ability to log from multiple HandyMeters.
- the unit is directly powered from the PC when connected using USB
- Power adaptor connection available
- 9V PP3 battery (supplied) powers the unit when stand alone.



DA20250

SENSORS

All our sensors are individually designed to high specifications and are recognised automatically. As with the Logbook dataloggers our sensors are robust in construction and are designed to perform without the need for calibration.

Voltage Sensors

The Logbook voltage sensors are designed to measure variations in voltage, both positive and negative, work from DC to 10KHz and can be used together with other Logbook Voltage and Current sensors anywhere in a circuit with a supply voltage range of less than 24 volts

.DA20300 Voltage Sensor $\pm 1V$

DA20302 Voltage Sensor $\pm 20V$



Current Sensors

The Logbook current sensors are designed to measure variations in current, both positive and negative, work from DC to 10 KHz and can be used together with other Logbook current and voltage sensors anywhere in a circuit with a supply voltage range of less than 24 volts.

DA20306 Current $\pm 100\text{mA}$

DA20307 Current $\pm 1\text{A}$

DA20308 Current $\pm 10\text{A}$



Light Sensor

The Logbook light sensor measures from 0.5 to 100,000 lux, whilst maintaining relative accuracy at all levels. There are two versions available:

1. The fast version is suitable for use in experiments where a rapid photo response is required such as investigating how the light output from a mains powered lamp varies with time.
2. The slow version is designed for use in investigations where the mains interference is to be avoided, such as measuring turbidity in a rate of reaction experiment.

DA20310 Light Sensor (Slow)

DA20312 Light Sensor (Fast)



Sound Sensor

The Logbook sound sensor measures from 50 to 110 dB. For sound wave investigations use either Datadisc Au or Explore to record sound waves directly onto a multimedia PC using the Logbook microphone. With Datadisc Explore measure sound wave period using the cursor function and with Datadisc Au it is also possible to measure the frequency content of sound using the spectrum analysis tool.

DA20315 Sound Sensor

DA20317 Microphone



Oxygen Probe Sensor

The Logbook Oxygen probe sensor is designed to measure oxygen concentrations in water and is suitable for investigating photosynthesis and other oxygen related investigations in biology and chemistry. The built-in electronics provide temperature compensation for dissolved oxygen levels in water. When used with Datadisc Au accurate calibration using the set 100% feature is available.

DA20320



pH Probe Sensor

The Logbook pH probe sensor measures pH levels from pH0 to pH14. When used with Datadisc Au it is possible to buffer at pH7. Temperature compensation is also available when used with a compatible temperature probe in the same liquid.

DA20325

each



pH Interface

For use with the pH probe or any standard pH probe with a BNC connector. Measures from pH10 to pH14 with buffering at pH7. Temperature compensation is also available when used with a compatible temperature probe in the same liquid.

DA20330



pH Probe

(for use with interface)

For use in water/soil studies and a number of acid/alkali based experiments.

DA20332



Temperature Probe

The Logbook temperature probe is designed for general usage such as the measurement of air, surface or liquids. Range: -20°C to $+110^{\circ}\text{C}$.

DA20340



Humidity

The Logbook humidity sensor uses the latest semiconductor sensor technology to provide accurate and reliable temperature compensated humidity measurements in all but the harshest environments. Range: 0-100% humidity (non-condensing)

DA20345



Colorimeter

The Logbook colorimeter is the first in a range of Logbook meters with datalogging output. It can be used as a stand-alone bench colorimeter or when connected to a datalogger it can carry out a range of colorimetry investigations. Using Light Emitting Diode technology the Logbook Colorimeter requires no additional filters or moving parts to operate in six spectral bands. The unit's 3 button operation provides for calibration, easy switching between the 6 colour bands and selection of transmission or absorbance measurements.

Transmission = 0-100%

Absorbance = 0 - 1.2 and 0 - 2.4 units

Red - 650nm, Red - 626nm, Amber - 590nm, Green - 525nm, Blue - 470nm, Violet - 428nm.

DA20350 Colorimeter

DA20352 Colorimeter with case, power supply and lead



Force Sensor

The Logbook force sensor is designed for use as a versatile force-measuring unit. It can be placed upright on a bench to measure impulses of a falling object and the weight of a static object. Alternatively, used with an appropriate support it functions as an electronic spring balance.

It is also ideal for use at the end of an airtrack to measure impulses from a colliding trolley.

Range: $\pm 5\text{ N}$, 0 to -10N and 0 to $+10\text{N}$

DA20355



Pulse Sensor

The Logbook pulse sensor is used in combination with the ECG belt strap (supplied) to measure pulse rate while the wearer is stationary or exercising. Wireless communication from the belt strap to the sensing device ensures reliable measurements even during exercise provided that the sensor is within approximately 1 metre of the wearer. Range: 0 to 240 beats per minute.

DA20360



Light Stick Set

The light stick set can be added for use with Datadisc control software to carry out control and monitoring tasks for ICT and D & T.

DA20365



IR Irradiance

This sensor is ideal for comparing the radiated energy from different objects, such as comparing the energy output from the different faces of Leslie's cube.

Range: -40 to 200Wm²

Resolution: 0.2Wm²

DA20600



Magnetic Field

The sensor is suitable for examining the nature and strengths of magnetic fields of solenoids as well as permanent magnets. This sensor measures with both unsmoothed DC power supply as with a stable DC supply as it does not suffer from interference at mains frequencies.

Range: ± 100 mT or ± 30 mT

Resolution: 0.2 mT

DA20605



Oxygen (Atmospheric)

The sensor is designed to measure the oxygen content of air. It is ideal for investigating respiration. The cell life of this sensor is typically over 1 year.

Range: 0 to 30%

Resolution: 0.1%

DA20610



Pressure (Absolute)

This sensor is ideal for the investigation of gas laws. It measures absolute pressure so that in a normal room environment it will measure the atmospheric pressure which is approximately 100kPa. It can therefore measure both a vacuum and higher pressures. When used with the volume sensor it is easy to investigate the relationship between pressure and volume.

Derived Sensor

Inverse pressure

Range: 0 to 700kPa

Resolution: 1kPa

DA20615



Pressure (Differential)

This sensor measures small deviations in pressure from atmospheric. It reads zero when both tubes are connected to the air. If the pressure on one side of the sensor is changed this sensor will measure both increases and decreases in pressure.

Derived Sensor

Inverse pressure

Range: ± 15 kPa

Resolution: 0.02kPa

DA20620



Radioactive Countrate

This sensor has a variable sample rate depending on the radiation level. At low radiation levels the sample period goes up to 8 seconds. At higher radiation levels the sample period will automatically decrease giving a faster response.

Derived Sensor

Total counts

Count period

Range: 0.1 to 1000 counts s⁻¹

Resolution: 2% of reading

DA20625



Volume Sensor

This unique product from ScienceScope makes investigation of gas laws and titrations much more simple.

Range: 0 to 17.5cm³

Resolution: 0.1cm³.

DA20630



DIGITAL MICROSCOPES

See pages 101 - 102

Datadisc Timing Kit

All you need to begin timing experiments with Logbook SE. The kit includes:

- Two Logbook SE compatible Lightgates
- ScienceScope geeframe which has been specifically designed to obtain reliable measurements of g by freefall.
- Datadisc Timing Software.
- Investigation notes for g by freefall.

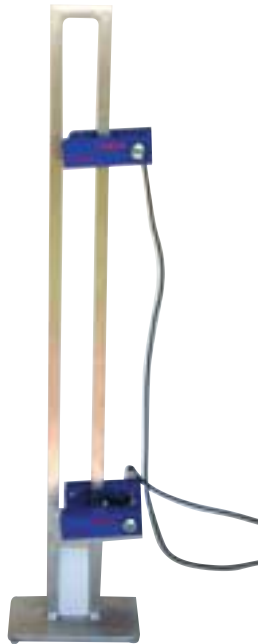
DA20380 Datadisc Timing Kit

Datadisc Timing Kit components are also available separately:

DA20382 **Datadisc Timing**

DA20384 **Lightgates**

DA20386 **Geeframe**



DATADISC SOFTWARE

Datadisc Explore

**KEY STAGE 2 - GCSE
AGES 7 - 16**

Explore is a datalogging software package for the intermediate user. Including Graphpad, Datadisc Explore is for use up to GCSE level. Explore allows you to record data using Logbook dataloggers as an interface attached to a PC or log remotely and then transfer the data. Explore allows recordings to be set up for 122µs intervals and duration of 25ms up to 10 minutes.

Recorded data can be displayed in a number of ways by using the various modes of single and tiled graphs, bar chart or table. Explore also allows manual entry of pupils' data.

Explore contains a number of detailed analysis tools which allows such features as straight line fit, gradient calculation, scaling of axis and many more.

With Explore's sound record option you can record up to 4 waveforms that can be performed with a single microphone without the use of a datalogger (computers must have a sound card).

Explore is an easy to use and versatile datalogging software package with a range of features to suit from Key Stage 2 through to GCSE level students.

DA20400 Datadisc Explore Master Licence

DA20402 Datadisc Explore additional user licence

DA20404 Datadisc Explore 10 user licence

DA20407 Datadisc Explore site licence



Datadisc Au

KEY STAGE 2 - A LEVEL AGES 7 - 18

Au is an ideal datalogging software for the advanced user. Including Graphpad, Explore and Datamass software, Datadisc Au provides a comprehensive range of features for any experienced user.

Au's advanced features range from a simple triggered recording to such advanced maths features as calculating area under graph and selecting a range for the calculation/fit function. With the inclusion of Datamass, Au allows you to integrate, using an RS232 output, a range of compatible balances into your investigations. Datadisc Au is compatible with all Logbook dataloggers and sensors. Datadisc Au provides a wide range of features and modes to suit even the sophisticated user.

DA20410 Datadisc Au Master Licence

DA20412 Datadisc Au additional user licence

DA20415 Datadisc Au 20 user licence

DA20416 Datadisc Au 50 user licence



Datamass

Datamass allows the user to record data using a variety of RS232 balances and allowing analysis of the data using many of the advanced features found in Datadisc Au, such as straight line fit through to calculating and fitting curves.

DA20420 Datamass Master Licence

DA20422 Datamass additional user licence

ACCESSORIES:

BALANCE LEADS

DA20430 Ohaus 9 Pin

DA20431 Ohaus 25 Pin

DA20432 Avery 9 Pin

DA20433 Avery 25 Pin

DA20434 A & D 9 Pin

DA20435 A & D 25 Pin

Datadisc Control

This is a fully featured flowcharting program for use with all Logbook dataloggers and sensors. For use in ICT curriculum, Control software allows control of up to 6 output channels from both built-in and add on sensors.

DA20440 Datadisc Control

Datadisc Lab 2003

Datadisc Lab 2003 is the most complete range of datalogging software available. It includes the entire range of the Datadisc suite including: Au, Explore, Graphpad, Control, Timing as well as data capture through digital video with VisiStore, VisiEdit and VisiLog complete with a Videologging compatible USB camera and stand.

DA20450 Datadisc Lab 2003 Master Licence

DA20455 Datadisc Lab 2003 Additional User Licence

Datadisc requires a PC running Windows 95/98/NT/ME/2000/XP

VIDEO LOGGING

New Videologging Systems for Schools



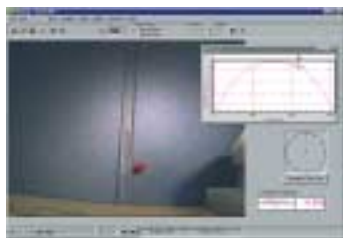
TIMSTAR is pleased to offer a new range of Videologging products: VisiLog, VisiStore and VisiEdit which are now all available to use on PC and Laptop computers with a Videologging compatible USB Camera. VisiLog can now simultaneously capture video and data sequences using a wide range of Dataloggers.

Ideal for:

- **Physics** - bring Dynamics experiments to life by the use of visual images
- **Biology** - with the full range of time lapse video capabilities, students can investigate the rate of growth of plants, behaviour of flowers etc.
- **Chemistry** - suitable for investigations into chemical change, colorimetry, etc.
- **ICT** - with video time lapse, monitor the congestion in a school corridor.
- **Sports Science** - video athletes on the track for later analysis in the laboratory.

VisiLog

Offering full 2 dimensional tracking of up to ten moving objects at up to 30 frames per second (Freeze motion with a shutter speed of up to 1/10,000th of a second). In addition, with a compatible datalogger obtain simultaneous sensor data (e.g. force, light level). After analysis by tracking of position the software automatically calculates velocity and acceleration. Use this feature to carry out measurements of g , the acceleration of a frog, a car on a runway and a wide range of Sports Science measurements. Use time-lapse video to investigate plant growth and behaviour of animals. Use colour tracking to analyse pH changes in titration in Chemistry and see that the endpoint can be identified as precisely as with a pH probe.



DA20500 Single user full version of VisiLog complete with a Videologging compatible USB Camera and stand

DA20505 VisiLog additional user licence

VisiStore

Offering a comprehensive video and picture scientific database for storage and analysis of pictures from a wide range of picture sources.

Keep experimental data from VisiLog including video clips, pictures of the experimental set-up, graphs of data and text descriptions together in one place.

Keep photomicrographs, edit them and label them as required.

Ideal for use with digital microscopes.



DA20510 Single user full version of VisiStore with Videologging resources

DA20515 VisiStore additional user licence

Videologging resources



Over 400Mbytes of video clips and VisiStore based curriculum resources and data for using at Key stage 3 and 4. Living Body Database and experiments which include a wide range of dynamics experiments in Physics, plant monitoring and growth for Biology and titrations for Chemistry. This package is

only available with the VisiStore and VisiEdit.

VisiEdit

VisiEdit is a powerful avi editor tailored for use with VisiLog and VisiStore. Features include editing of any avi video sequence offering copy and paste, delete frames, insert frames from images and avi's, frame resize and crop, rotate and flip, and colour adjustment.



DA20520 Single user full version of VisiEdit with Videologging resources

DA20525 VisiEdit additional user licence

USB Cameras require a PC with the following specification:



- Pentium 1GHz 128Mb RAM or better computer running Windows 95/98/Me/2000/XP (One free USB port for Camera).
- Videocard running 800x600 "Hi color" screen mode (16 bit) with 4M VRAM

DEIONISERS

DEIONISER, 'Elgastat' BI14. Wall mounting with mixed bed resin in expendable cartridges. Output 20/250 Lts. depending on hardness. Max. flow rate 30Lt/hour. Battery operated water purity meter. Supplied with 4 cartridges but without battery.

DE05600 BI14 Deioniser and 4 Cartridges.
DE05605 Cartridges (4 in pack)



PERMUTIT DEIONISERS

DEIONISER. Colour Change CD100. The perfect choice for schools and other laboratories requiring a low cost, portable supply of small volumes of de-ionised water. Resin changes colour when cartridge needs changing. Max flow rate 60Lts/hr. Output 40 to 160 Lts, depending on hardness. Size 330 x 130mm. Supplied with inlet hose assembly and cartridge.

DE05615 CD 100 Deioniser
DE05617 Cartridges (Pack of 2)

DEIONISER. CD250. A fully portable fast flow mixed bed disposable cartridge deioniser with an integral battery operated solid state conductivity monitoring system. Max flow rate 120Lts/hour. Output 125 to 500 Lts depending on hardness. Can be wall-mounted or bench standing. Supplied with inlet hose assembly and one cartridge, but without battery. Size 421 x 270mm.

DE05620 CD250 Deioniser
DE05625 Cartridge (Pack of 2)

DEIONISER. CD500. A fully portable fast flow mixed bed resin deioniser with an integral battery operated solid state conductivity monitoring system. Max flow rate 120 Lt/hour. Output 250 to 1000Lts depending on hardness. When the resin is exhausted, simply replace with one fresh resin pack. Can be wall-mounted or bench standing. Supplied with inlet hose assembly and one disposable resin charge but without battery. Size 641 x 270mm.

DE05630 CD500 Deioniser
DE05632 Resin Pack 4Lt.



DENSITY BOTTLES

DENSITY BOTTLES. Unadjusted with capillary stopper.

DE05650 ① 25ml
DE05655 50ml

DENSITY BOTTLES. Adjusted to BS733.

DE05660 ② 25ml
DE05665 50ml
DE05670 100ml



DESICCATORS

DESICCATOR. Borosilicate Glass with knob lid and disc.

DE05700 ③ 100mm Int. Dia.
DE05705 200mm Int. Dia.

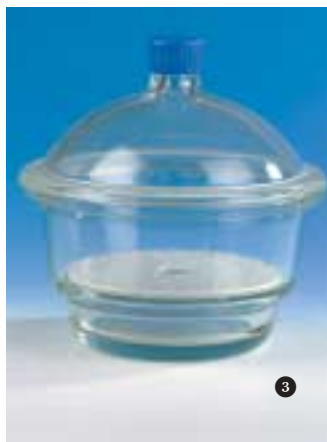
DESICCATOR, VACUUM. Borosilicate Glass with ground in 24/29 interchangeable stopcock and disc. 200mm Int. Dia.
DE05715

DESICCATOR. Plastic, Vacuum Pattern, consisting of a transparent polycarbonate top with O-ring seal, polypropylene base, desiccant tray and perforated plate, with a stopcock that accepts 6mm bore, flexible tubing and P.T.F.E. plug in the top which turns to allow controlled admission of air.

DE05720 ④ 200mm Int. Dia.

DESICCATOR DISCS. Perforated zinc.

Dia.
DE05725 100mm
DE05735 150mm
DE05740 200mm



DESIGN & TECHNOLOGY

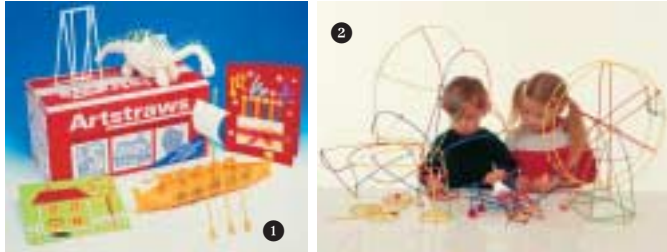
ARTSTRAWS. Paper modelling straws for art and craft work.

DE057450 ① 4mm Standard Straws pk 1800

DE057452 ② 6mm Jumbo Straws pk 900

CONSTRUCTO STRAWS. Pack of pliable straws, consisting of straws, rods, wheels and joining pieces. Total pack approx. 300 pieces.

DE057460 ②



STRAWS. Plastic drinking straws. Length 200mm in packs of 1000.

DE057465 ③ Standard 3mm dia

DE057466 ④ Jumbo 6mm dia

GEOSTRIPS. Flexible, colourful strips which fasten together with brass connectors to form a wide range of geometric figures. The set consists of 68 strips of various sizes, box of connectors, a protector and 11 carefully graded work cards.

DE057470 ④



PIPE CLEANERS. Coloured.

DE057475 ⑤

CORRIFLUTE. A lightweight polypropylene board 4mm thick with a hollow fluted internal structure. Easily cut using a sharp knife or scissors and simply joined with tape or fasteners. Supplied in packs of 10 sheets. (500 x 500mm) of mixed colours.

DE057480 ⑥

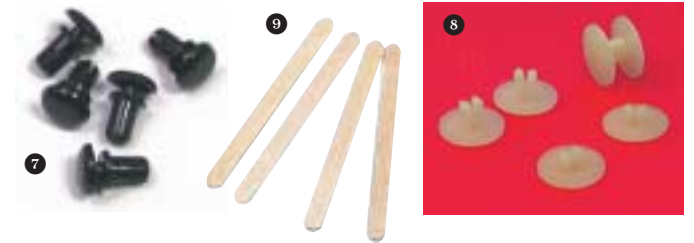


CLIC RIVETS. Two part plastic rivets designed for fixing two pieces of sheet material together.

DE057484 ⑦

RATCHET RIVETS. Two part plastic rivets, ideal for use with Corriflute. Simply drill an 8mm hole and press the two halves together.

DE057488 ⑧



LOLLY STICKS. Wooden 114mm in packs of 1000.

DE057495 ⑨

DOWELLING. Ramin. Packs of ten 900mm lengths.

Diameter

DE057498 3mm

DE057500 4mm

DE057502 6mm

DE057504 9mm

DE057506 12mm

WOOD, PSE Redwood. Square Section. Supplied in packs of ten approx 1M lengths.

DE057512 9 x 9mm

DE057514 12 x 12mm

WOOD, PSE Redwood Strip. Supplied in packs of five 1.8M lengths.

DE057516 21 x 5mm

DE057518 30 x 5mm

COTTON REELS. Pack of 50, mixed colours.

DE057520 ⑩



CARD WHEELS. 4mm Hole in packs of 100.

Diameter

DE057525 ⑪ 30mm

DE057526 40mm

DE057527 50mm

DE057528 60mm

PLASTIC WHEELS. 4mm Hole.

Diameter

DE057530 ⑫ 30mm

DE057531 50mm

DE057535 ⑬ 39mm (Economy pack)



WOODEN WHEELS, Turned wood with 4mm hole in packs of 10.

	Diameter
DE057545 ①	38mm
DE057546	50mm

PROPELLER, push - fit onto 2mm axle.

DE057550 ②	3 blade 125mm diameter
DE057551 ③	2 blade 150mm diameter

GEARS, a range of plastic gears with 4mm centre hole (which accepts 4mm Dowelling). The centre hole can be reduced to 2mm by using the push fit Nylon reducer. The number of teeth on each wheel is the same as the diameter:

DE057560 ④	15 tooth gear (15mm dia)
DE057561	30 tooth gear (30mm dia)
DE057562	45 tooth gear (45mm dia)
DE057563	45 degree bevel gear
DE057564	Worm gear (30mm long)
DE057565	Interlocking rack (100mm long)
DE057566	Nylon reducer 4 - 2mm



GEAR STARTER PACK. Each pack containing 10 x 15, 30 and 45mm tooth gears, 2 x bevel gear, 2 x worm gear and 30 Nylon reducers.

DE057570 ⑤

PULLEYS. A range of tough plastic pulleys with 4mm centre hole, which can be reduced to 2mm by using a nylon push fit reducer as listed under gears (**DI057566**).

	Diameter
DE057580	10mm
DE057581	20mm
DE057582	40mm
DE057583	60mm



PULLEY BLOCKS see under **PULLEYS**

PULLEY STARTER PACK. Each pack contains 10 x Motor Pulley, 10 x 10, 20, 40 & 60mm Pulleys and 40 Nylon reducers.

DE057588 ⑥



DIALYSIS TUBING

DIALYSIS TUBING. 'Visking' Seamless viscose cellulose tubing.

	Infl'd Dia.	Flat Dia.	
DI05760	6mm	10mm	
DI05765 ⑦	14mm	26mm	DI05766
DI05770	17.5mm	29mm	DI05771
DI05775	21mm	34mm	DI05776
DI05780	24mm	40mm	DI05781
DI05785	33mm	52mm	DI05786
DI05790	50mm	81mm	DI05791



CLIPS. For dialysis tubing. Gripping width 44mm.

DI05795 ⑧

DISPENSERS

DISPENSER. Simple one-handed operation. Squeeze reservoir bottle to the volume required and then pour out.

DI05797 ⑨	0-15ml Capacity.	500ml Reservoir
DI05798	0-60ml Capacity.	1000ml Reservoir

DISPENSER, BOTTLE TOP. 'BibbyPet'. An economical semi-automatic bottle top dispenser with replaceable dispensing cartridges and valves. Suitable for use with aqueous solutions, alkalis, dilute acids and polar solvents. The BibbyPet has a 45mm thread and is supplied complete with 32mm and 40mm adaptors.

DI18290 ⑩	BD10 Capacity 10ml	Setting 0.2ml
DI18291	BD25 Capacity 25ml	Setting 0.5ml

Spares:-

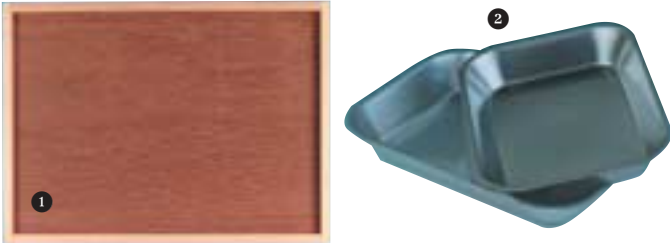
DI18295	Dispensing Cartridge 10ml
DI18296	Dispensing Cartridge 25ml
DI18297	Valve and Seal Set



DISSECTING EQUIPMENT

DISSECTING BOARDS. Soft Wood. 55 x 40cm with raised edges
DI05800 ①

DISSECTING DISHES. Aluminium with sloping sides. 30 x 20cm.
DI05810 ②



FORCEPS

DISSECTING FORCEPS. Stainless steel, straight with blunt points.

DI05825 ③ 125mm Length **DI05826**
DI05828 150mm Length **DI05829**
DI05830 200mm Length **DI05831**

DISSECTING FORCEPS, Nylon. Straight, blunt points.
DI05835 ④

DISSECTING FORCEPS. Stainless steel. Straight with fine points and guide pin.

DI05840 ⑤ 115mm Length **DI05841**
DI05845 125mm Length **DI05846**

FORCEPS. Curved with fine points and guide pin, Length 125 mm.
DI05855 ⑥ Stainless steel

FORCEPS. Entomological. With guide pin, Length 120mm.
DI05860 ⑦ Stainless Steel

FORCEPS. Watch Makers. With very fine points, Length 105mm.
DI05865 ⑧ Stainless Steel

FORCEPS. Bone Cutting. With coil spring, Length 120mm
DI05875 ⑨

MIRROR. Dental Inspection. Flat circular mirror 24mm dia. on 165 mm metal handle.
DI05880 ⑩



NEEDLES AND HOLDERS

NEEDLES. Stainless Steel. Straight.

DI05900 ⑪ In Plastic handle **DI05901**
DI05910 ⑫ In Stainless steel handle **DI05911**

NEEDLES. Borodaile. Stainless steel.

DI05915 ⑬

NEEDLE HOLDER. (Inoculating Loop). Aluminium with brass chuck.. Length 150mm.

DI05920 ⑭ **DI05921**

INOCULATING LOOPS. Nichrome.
DI05925

INOCULATING LOOPS. Disposable 10µl loop at one end with a needle for stab culture at the other.

DI05928



PINS, POINTS & AWLS.

DISSECTING AWL. Stainless steel spike.

DI05930 ⑮ 28mm in Aluminium handle
DI05935 ⑯ 50mm in Wooden Handle

PINS, Plated

DI05950 25mm Long
DI05955 51mm Long

SETTING PINS. With plastic heads. 30mm Long

DI05960 ⑰

SCALPELS.

SCALPELS, SOLID. Stainless steel.

DI05965 ⑱ 35mm Blade
DI05970 ⑲ 45mm Blade
DI05975 ⑳ 50mm Blade

SCALPELS, SOLID. Carbon Steel.

DI05980 ⑱ 35mm Blade
DI05985 ⑲ 45mm Blade
DI05990 ⑳ 50mm Blade



SCALPEL HANDLES, SWANN-MORTON.

Handle No.

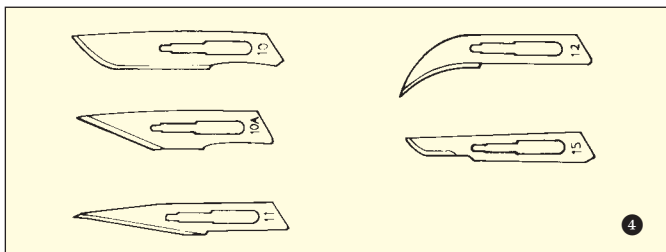
DI06000	①	3	DI06001
DI06005	②	4	DI06006
DI06010	③	7L	DI06011



SCALPEL HANDLES, Economy range to fit 'SWANN-MORTON' blades.

Handle No.

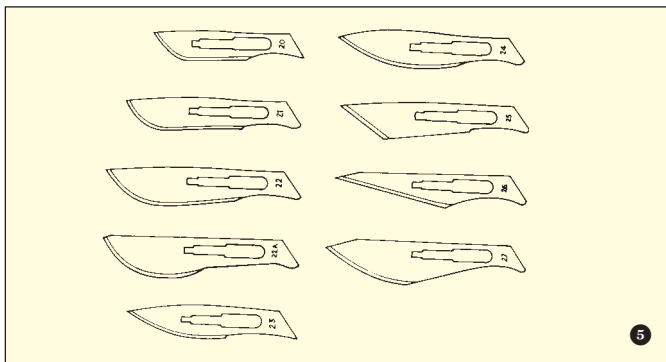
DI06013	3
DI06014	4



SCALPEL BLADES, SWANN-MORTON. To fit handles No. 3 & 7L, In packets of 5.

Blade No.

DI06015	④	10	DI06016
DI06020	10A	DI06021	
DI06025	11	DI06026	
DI06030	12	DI06031	
DI06035	15	DI06036	



SCALPEL BLADES, SWANN-MORTON. To fit handle No. 4., In packets of 5.

Blade No.

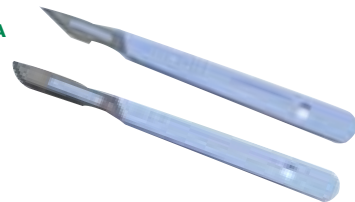
DI06040	⑤	20	DI06041
DI06045	21	DI06046	
DI06050	22	DI06051	
DI06055	22A	DI06056	
DI06060	23	DI06061	
DI06065	24	DI06066	
DI06070	25	DI06071	
DI06075	26	DI06076	
DI06080	27	DI06081	

SCALPEL BLADE REMOVER. Disposable. For use with No. 3 and No. 4 handles. Fits around the blade allowing it to be safely removed. DI06084 ⑥

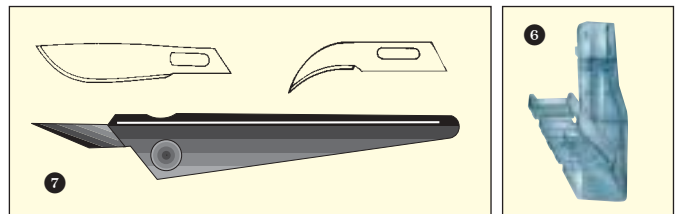
SCALPEL, STERILE DISPOSABLE SWANN-MORTON. Plastic handle with steel blade. In packs of 10

Blade No.

DI06086	10
DI06087	10A
DI06088	11
DI06091	20
DI06092	21
DI06093	22
DI06095	23
DI06096	24



SCALPEL SET. SWANN-MORTON. Slotted plastic handle with clamping screw to grip blade. Complete in box with blades No's 1 and 2. DI06100 ⑦



BLADES FOR SCALPEL SET. In Box of 50 Blades.

DI06105	No. 1 Straight
DI06110	No. 2 Convex
DI06115	No. 3 Concave

SCISSORS

SCISSORS. Stainless steel, straight fine points. Open shank.

DI06125	⑧	Length 115mm	DI06126
DI06130	125mm	DI06131	
DI06135	150mm	DI06136	

SCISSORS. Stainless steel. Curved with very fine points. Open shank.

DI06140	⑨	Length 112mm
DI06145	125mm	

SCISSORS. Stainless steel. Fine points, closed shank, length 105mm.

DI06155	⑩	Straight
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SCISSORS, DRESSING, Stainless steel, closed shank, length 125mm.

DI06165	⑪	Type of points. Blunt/Blunt
DI06170	⑫	Blunt/Sharp
DI06175	⑬	Sharp/Sharp



SECTION LIFTERS

SECTION LIFTER. Length of blade 55mm., single ended.

DI06185 ① **Stainless steel.**

SECTION RAZORS.

SECTION RAZOR. Carbon steel blade, flat one side. Right handed.

DI06200 ②

RAZOR BLADE, Single edge.

DI06220 ③

SEEKERS

SEEKERS, Stainless steel, bent with blunt point.

DI06225 ④ **Plastic handle**

DI06235 ⑤ **Stainless steel handle**

DI06236



WALLETS.

CANVAS CASE. To hold 14 dissecting instruments, tie tapes.

DI06240 ⑥

PLASTIC WALLET. To hold 13 dissecting instruments, tie tapes.

DI06245 ⑦

DISSECTING SETS.

DISSECTING SET 'A'. In canvas case:-

Qty	Item
1	Scissors 115mm fine points, stainless steel.
1	Scissors 150mm fine points, stainless steel.
1	Forceps 125mm straight fine points, stainless steel
1	Forceps 125mm straight blunt points, stainless steel.
1	Swann Morton Handle No. 3.
1	pkt. Swann Morton Blades No. 11.
1	Swann Morton Handle No. 4.
1	pkt. Swann Morton Blades No. 22.
2	Needles, Stainless steel.
1	Seeker, Stainless steel.
1	Artist brush.
1	Dropping Pipette, 75mm with teat.

DI06250 ⑧ **Set 'A'**

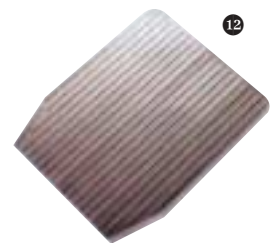
DISSECTING SET 'B'. In canvas case, containing the same instruments as set 'A' but with the following additions.

Qty	Item
1	Scalpel, 50mm. Stainless steel.
1	Section Lifter, Stainless steel.
1	Hand Lens x10.
1	Section Razor.

DI06260 ⑨ **Set 'B'**



DRAINING



DRAINING RACK. Polythene covered steel with eight pegs 110mm long and twenty-four pegs 80mm long. Overall size 410x300mm.

DR06300 ⑩ **Rack only**

DR06306 **Backboard and trough for above rack**

DRAINING RACK. Double. Free standing or can be used as two wall mounted racks. Comprising two polythene coated metal frames 520 x 420mm with peg

DR06308 ⑪

DRAINING MAT. Polyethylene. 400 x 510mm.

DR06310 ⑫

BESIDES THESE SETS, WE WILL BE ONLY TOO PLEASED TO MAKE UP ANY SETS TO YOUR REQUIREMENTS.

DRAWING

COMPASS, Plastic with metal inserts, self centring mechanism, short safety point and locked in pencil retaining ring.

DR06319 ①

PROTRACTOR, SEMICIRCULAR. Transparent plastic, bevelled edge. Divided 0-180° x 1°. Diameter 100mm.

DR06321 ②

PROTRACTOR, FULL CIRCLE. Transparent plastic, bevelled edge. Divided 0-360° x 1°. Diameter 100mm.

DR06323 ③

RULER, Transparent plastic 300mm. One edge divided in millimetres the other in 10th of an inch.

DR06325

SET SQUARE 45°. Transparent plastic. Side divided 0 - 135mm x 1mm.

DR06327 ④

SET SQUARE 60°. Transparent plastic. Side divided 0 - 185mm x 1mm.

DR06329 ⑤

DRAWING BOARD. 'Rotring College A3'. A strong plastic board holding upto A3 size paper, etc. with a sliding set square containing ruler and protractor markings.

DR06330



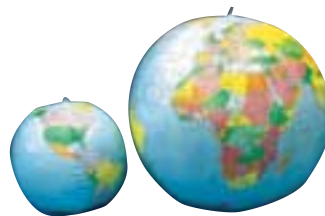
DRYING

DRYING CABINET For general warming and drying of laboratory glassware. Stoved enamel paint interior and exterior; toughened glass sliding doors, 3 chromium plated wire mesh shelves. Simmerstat heat control. Max temperature - Ambient to 50°C

	Capacity (Lt)	Size: H x D x W (mm)
DR06350 ⑥	113	600 x 360 x 750
DR06352	226	660 x 400 x 1000



EARTH IN SPACE



GLOBES, Inflatable. Political globe.

EAI8200

Large 40cm dia.

EAI8205

Giant 70cm dia

GLOBES, PHYSICAL RELIEF. 30cm dia. globe with clearly printed physical relief details. Time dial and information booklet. Mounted on a strong metal half meridian and base.

EAI8210 ⑦

GLOBES, POLITICAL RELIEF. 30cm dia. globe with clearly defined current political boundaries. Time dial and information booklet. Mounted on a strong metal half meridian and base.

EAI8212 ⑧



ORBIT ORRERY. A basic model which shows the relationship between the sun, planets and the moon. The sun is illuminated by 2 x AA batteries (not included).

EAI8220 ⑨

ORBIT TELLURIUM. All experiments undertaken with the Solar Observatory can be replicated in the classroom using the Tellerium. It demonstrates the relationship between the sun, the earth and its moon. Complete with detachable moon drive and moon disc. Supplied with full teaching notes.

EAI8225 ⑩



SOLAR OBSERVATORY. For observations and recording the daily and seasonal movements of the sun using shadows, and to measure the sun's altitude and direction from the North. Full teacher notes are included.

EA18230



SOLAR SYSTEM POSTER SET. A complete set of 10 laminated posters, showing the sun and nine planets. Each print shows a planet at its correct relative size and characteristics. When hung on a wall the set will give an impression of the overall size of the solar system.

EA18235



SEE ALSO UNDER VISUAL AIDS

HELIOS PLANETARIUM. A working model of the planetary system which combined with a star dome makes a versatile aid for teaching basic astronomy. On a circular 36 cm dia base, model planets orbit at the correct relative speeds around the Sun, and the Moon orbits the Earth. The planets can be positioned for any year or month upto 2020. Can also be used to demonstrate the Seasons, Tides and Stars as seen from different latitudes. Supplied with a full information booklet.

EA18240



ELECTRICAL ACCESSORIES

PLUGS 13A 3 pin, BS 1363. Fused.

EL06500 ① White plastic body

EL06505 ② Black rubber clad.

MAINS ADAPTER, 3-way, Fused.

EL06508 ③

EXTENSION LEAD. A 4-Way 13A white rubber socket with a 13A fused fitted plug and 2M of three core white PVC cable.

EL06515 ④

EXTENSION REEL. 6M of 3-core insulated mains cable and a double socket outlet and safety cut-out. Neat holder collects and realigns flex. Capacity 6A.

EL06520 ⑤

MAINS CONNECTOR 'Safebloc' for making temporary connections of electrical equipment to mains supply. May be used up to 13A, but supplied with 5A fuse. Output is through 3 nickel plated clips which are automatically isolated when the lid is raised.

EL06525

POWER BREAKER 13A Portable RCD adapter, which provides effective fast acting double pole protection against defective wiring or earth leakage.

The adapter includes Test and Reset switches with visual indication of power status. Plugs directly into a 13A socket and accepts any appliance wired to a 13A plug. For 240V a.c. Trip speed less than 40ms.

EL06527 ⑥



TERMINAL BLOCKS. Set of 6 connectors in flexible plastic body. Can easily be sub-divided.

EL06530 ⑦ 5 Amps

EL06535 15 Amps

SWITCH, PUSH BUTTON, miniature low cost push to make switch with red button. 28 x 10.5mm, dia. Rated 250mA. 125V a.c.

EL06542 ⑧

SWITCH, STANDARD TOGGLE, complete with on/off plate. Rated at 25V 1.5A a.c.

EL06543 ⑨ Single pole, single throw (25 x 14 x 14mm)

EL06544 ⑩ Double pole, double throw (28 x 18 x 14mm)

SWITCH, MINIATURE TUMBLER, with removable cover. Maximum 12V 3A. Surface mounting. Single pole, single throw.

EL06545 ⑪



LAMP HOLDERS.

- EL06550 ① BC (Cord Grip) Plastic
- EL06555 ② BC (Batten) Plastic
- EL06560 ③ MES (Batten) Plastic
- EL06562 ④ SBC (Batten) Brass
- EL06563 ⑤ SBC (Cord Grip) Brass



LAMP HOLDER, MES MOUNTED on plastic base fitted with 4mm sockets. Complete with 6.0V, 0.06amp lamp.

EL30270

LAMP HOLDER, SBC MOUNTED on plastic base fitted with 4mm sockets. Complete with 12V, 21W SBC lamp.

EL06564 ⑥



CROCODILE CLIPS, 5A. Nickel plated steel. Length 41mm, takes 4mm plug.

- EL06565 ⑦ Standard clip
- EL06566 Standard clip
- EL18500 ⑧ Clip with black insulated cover
- EL18502 ⑨ Clip with red insulated cover

CROCODILE CLIPS, 25A. Large nickel plated battery clip.

EL18510

CROCODILE LEAD PACK. Set of ten leads, 450mm long in five assorted colours. Terminated at each end with a vinyl sleeved crocodile clip.

EL06567 ⑩



LEADS, Length of flexible wire covered in PVC terminated at each end with a 2mm Stackable Plug.

	Length	Colour
EL06571 ⑪	100mm	Black
EL06572	100mm	Red
EL06573	300mm	Black
EL06574	300mm	Red

STACKABLE PLUGS, 4mm Socket in the top providing an in-line stackable facility. The lead wire is clamped in position by a screw located at the bottom of the socket.

- EL06590 ⑫ Black
- EL06591 ⑬ Red
- EL06592 Green
- EL06593 Yellow
- EL06594 Blue
- EL06595 White



LEADS. Length of flexible wire covered by colour coded P.V.C. terminated at each end with a 4mm in-line stack plug.

	Length	Colour
EL066000 ⑭	250mm	Black
EL066010	250mm	Red
EL066020	500mm	Black
EL066021	500mm	Blue
EL066022	500mm	Green
EL066023	500mm	Red
EL066024	500mm	Yellow
EL066060	1000mm	Black
EL066070	1000mm	Red

BNC CONNECTING LEADS. Ready assembled 1.2M long test leads with moulded-on strain reliefs.

- EL18512 ⑮ BNC Plug to BNC Plug
- EL18513 BNC Plug to Crocodile Clips
- EL18514 BNC Plug to Stackable 4mm Plugs

BNC to 4mm TERMINAL ADAPTOR. A BNC plug terminated to twin 4mm (red and black) terminals with 4mm sockets. 19mm centres.

EL18516 ⑯

KETTLE LEAD. Moulded 13A plug to 2M IEC lead.

EL18517



BANANA PLUGS. 4mm pin. Solder connection.

- EL066080 ⑰ Black
- EL066081 Red

PLUGS, TRANSVERSE HOLE. 4mm pin with 4mm cross hole. Connected by screw terminals.

- EL066085 ⑱ Black
- EL066086 Red

INSULATED SOCKETS. 4mm for panel mounting. To suit panels up to 13.5mm thick. Rating 10A.

- EL06611 ⑲ Black
- EL06612 Red

SPADE ADAPTERS. Screw connection for wire.

- EL06614 ⑳ Black
- EL06615 Red

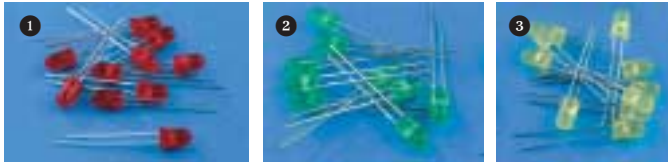
TERMINAL SOCKETS. (Screw Socket) 4mm for panel mounting. To suit panels up to 12.7mm thick. Rating 10A.

- EL06616 ㉑ Black
- EL06617 Red



LIGHT EMITTING DIODE (LED). 5mm standard high quality LED indicators with diffused lens. Maximum voltage 3.0V d.c. PCB or panel mount.

- EL06620 ① Red
- EL06621 ② Green
- EL06622 ③ Yellow



TAPE, Insulating P.V.C. in rolls 19mm (W) x 20M.

- EL06630 ④ Black.
- EL06631 White

BELL. Electric. Plastic case with 70mm die metal plated gong. For use on 3 to 6V AC/DC.

- EL06633 ⑤

BUZZER. Electric, 6 volt.

- EL06636 ⑥



MOUNTED BUZZER. on a plastic base with 4mm sockets

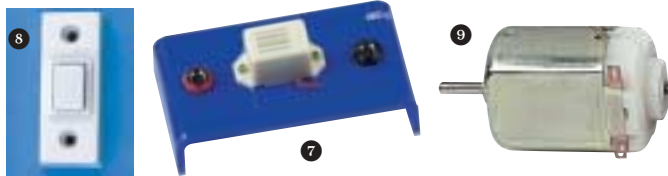
- EL30278 ⑦

BELL PUSH. Rectangular, suitable for currents up to 12V 1A a.c. or d.c., plastic body.

- EL06637 ⑧

MOTORS, with 2 mm shaft.

- EL06638 ⑨ 1.5 - 3V Length 38mm Dia. 20mm
- EL06639 3 - 6V Length 45mm Dia. 24mm
- EL06641 12 - 24V Length 51mm Dia. 28mm



MOUNTED MOTOR. on a plastic base with 4mm sockets

- EL30280 ⑩

MOTOR CLIPS. Plastic self adhesive spring clips, ideal for mounting electric motors or syringes

- EL06642 ⑪

MOTOR PULLEY. small push fit pulley which fits directly onto a 2mm motor shaft

- EL30300 ⑫



MOTOR and GEARBOX UNIT. The motor operates between 1-5 and 6.0V d.c. and the unit includes interchangeable gears, giving a range of speeds and motor torques.

- EL30305 ⑬ Motor and Gearbox
- EL30306 Spare set of gears



BULBS. FESTOON.

- EL06643 ⑭ 12V 10W
- EL06644 12V 3W

BULBS. M.E.S. Cap.

	V	A
EL06645 ⑮	1.25	0.25
EL06646	1.5	0.3
EL06650	2.5	0.2
EL06655	3.5	0.3
EL06661	6.0	0.06
EL06662	6.5	0.3
EL06663	12.0	0.2



BULBS. M.E.S. Cap. Flashing

	V	A
EL066640 ⑯	1.5	0.2
EL066641	2.5	0.2
EL066642	3.5	0.2
EL066643	6	0.2



BULBS. M.E.S. Cap. Lens Ended 2.2V x 0.25A. (Flashlamp Bulb).

- EL06645

BULBS INFRA RED. A 250W tungston filament bulb, internally silvered. ES Fitting for 240V

- LA09965 ⑰

BULBS B.C. Mains Pearl.

	Watts.
EL06665 ⑱	40
EL06670	60
EL06675	100

BULBS, PROJECTOR A1/ 223 24V. 250W

- PR12680 ⑲

BULBS S.B.C. 12V.

	Watts.	Filament	Size
EL06676 ⑳	5	Horizontal	35 x 19mm dia.
OP11807	21	Horizontal	55 x 38mm dia.
EL06677 ㉑	24	Vertical	55 x 38mm dia.
EL06678	36	Vertical	55 x 38mm dia.
EL06679	48	Vertical	55 x 38mm dia.



FUSES. Mains to BS 1362

	Amps
EL18518	2
EL06680	3
EL06681	5
EL06683	13


FUSES. QUICK-BLOW, 20 x 5mm.

	Rating
EL06686	100mA.
EL06687	250mA
EL06688	500mA
EL06689	1A
EL06691	2A
EL06692	5A


FUSES, SLOW-BLOW (Time-delay), 20 x 5mm.

EL18520	100mA
EL18521	250mA
EL18522	500mA
EL18523	1A
EL18524	2A
EL18525	3.15A

FUSEHOLDER. Unmounted for mains voltage. Metal clips on plastic base with single hole fixing. To take 20mm fuses.
EL06693

[Other Types and Sizes of Fuses are available on request]

MORSE KEY. High speed model. All metal cast base 75 x 50mm with two terminal posts and fine adjustment.

EL06694 ①



KNIFE SWITCHES. Double throw for Panel mounting. For use at voltages up to 50V a.c. & 75V d.c.

EL06697 ② Double Pole

WIRE. Bare Copper

	S.W.G.	Dia. (mm)	Wt/Reel (g)
EL06700 ③	14	2.0	250
EL06702	16	1.60	250
EL18530	18	1.25	250
EL06703	20	1.90	250
EL06704	22	0.71	250
EL06706	24	0.56	250
EL06707	26	0.45	250
EL06708	28	0.37	250
EL18531	30	0.31	250
EL18532	32	0.28	250
EL18533	36	0.20	250

WIRE. Tinned Copper, 26swg, 0.45 dia in 50g reel.
EL06710

WIRE. Bare, Constantin (Eureka) 60% Copper, 40% Nickel Alloy.

	S.W.G.	Dia. (mm)	Wt/Reel (g)
EL06716 ④	16	1.60	125
EL18534	18	1.25	125
EL06717	20	0.90	125
EL06718	22	0.71	125
EL06719	24	0.56	125
EL06721	26	0.45	125
EL06722	28	0.37	125
EL06723	30	0.31	125
EL06724	32	0.28	125
EL06726	34	0.23	125
EL06727	36	0.20	125
EL06728	38	0.16	125


WIRE. Bare, Manganin.

	S.W.G.	Dia. (mm)	Wt/Reel (g)
EL30200 ⑤	20	0.90	50
EL30202	22	0.71	50
EL30204	24	0.56	50
EL30206	26	0.45	50
EL30208	28	0.37	50
EL30210	30	0.31	50
EL30212	32	0.28	50

WIRE. Bare, Nickel-Chromium (80% Nickel, 20% Chromium Alloy).

	S.W.G.	Dia. (mm)	Wt/Reel (g)
EL06731 ⑥	18	1.25	125
EL06732	20	0.90	125
EL06733	22	0.71	125
EL06734	24	0.56	125
EL06736	26	0.45	125
EL06737	28	0.37	125
EL06738	30	0.31	125
EL06739	32	0.28	125
EL06740	34	0.23	125
EL06741	36	0.20	125

WIRE, Bare, Iron. 30swg., 0.31mm dia. in 125g reels.
EL06745

WIRE, Extra flexible stranded copper wire. PVC insulated. Dia 2.8mm. Max 6A.

EL067460 ⑦	Black
EL067461	Blue
EL067462	Green
EL067463	Red
EL067464	White
EL067465	Yellow



WIRE, Single core copper wire. PVC insulated. Dia: 1.2mm. Nominal current rating 1.8A.

- EL067470 Black
- EL067471 Blue
- EL067472 Green
- EL067473 Red
- EL067474 White
- EL067475 Yellow

P.V.C. INSULATED 3 - CORE CABLE to be BS 6500.

	Max. Current A.
EL06751 ①	3
EL06752	6
EL06753	10
EL06754	13



P.V.C. INSULATED 2-CORE CABLE to BS6500. 2 Amp.

EL06755 ②

COPPER TRACK 33M reel x 5mm wide with self adhesive backing.

EL06758

RHEOSTATS

RHEOSTATS SLIDING CONTACT. A range of rheostats or potentiometers ideal for school use. Consisting of heavily oxidised resistance wire wound upon a vitreous enamelled steel tube and locked into place with ceramic cement, multi-leaf phosphor bronze heavy duty sliding contact on a nickel plated rod, robust enamelled die-cast end stands and 4mm socket terminals. Diameter 43mm.

	Resistance (OHms)	Max Current (A)	Tube Length (mm)
EL18540 ③	1600	0.3	200
EL18541	600	0.6	200
EL18542	300	0.9	200
EL18543	135	1.4	200
EL18544	55	2.3	200
EL18545	16	4	200
EL18546	8.5	5	200
EL18547	2.5	9	200
EL18550	1325	0.5	300
EL18551	280	1.2	300
EL18552	125	1.8	300
EL18553	37	3.2	300
EL18554	20	4.5	300
EL18555	4.5	9	300



ELECTRICAL MEASUREMENT

ELECTRICAL METERS

MOVING COIL. For d.c. only with 4mm terminals.

	Type	Range
EL06770 ④	Ammeter	0-0.6A & 0-3A
EL06771 ⑤	Voltmeter	0-3V & 0-15V
EL06772	Milliammeter	0-100mA & 0-500mA
EL06773	Microammeter	0-500µA

MOVING COIL 'Ravencourt'. For d.c. only, with 4mm terminals.

	Range
EL06775 ⑥	0 - 1 & 0 - 5A (Dual Scale)
EL06815 ⑦	0 - 5 & 0 - 15V (Dual Scale)



STUDENT DUAL AMP and VOLT METER. A strong, student proof meter housed in a high resistance plastic case (160 x 110 x 55mm), incorporating a unique switching system which not only operates internal shunting but automatically covers either Amps or Volts inputs when not in use and therefore eliminates student error. The moving coil mechanism is adjustable for zero and provides negative reading on both ranges. Input is via 4mm screw terminals. Large 80 x 80mm display reading -5 to 0, 0 to 50 and -10 to 0, 0 to 100.

Ranges: DC Amps:- 100 µA, 100mA, 1A and 5A
DC Volts:- 100mV, 1V, 10V and 50V

EL06818 ⑧

ECONOMY BENCH METERS. Moving coil, d.c. only, with 4mm terminals

EL06820 ⑨	0 - 1 Amp
EL06821	0 - 2 Amp
EL06822	0 - 5 Amp
EL06825	0 - 6 Volt
EL06826	0 - 15 Volt



DIGITAL BENCH METERS. A cost effective way of gaining all the advantages of digital metering at analogue cost. Two meters are offered: a Voltmeter reading 0 - 19.99V and an Ammeter reading 0 - 10A d.c. The two units come in colour coded cases and feature 0.5" LCD displays. Input is via colour coded 4mm. sockets and the units are short circuit and overload protected. Powered by a PP3 Battery (supplied) Size: 115 x 80 x 45mm.

- EL06828 **Digital Voltmeter 0 - 19.99 V d.c.**
- EL06829 **Digital Ammeter 0 - 10A. d.c.**



SCHOOL BENCH METERS. Digital. Supplied in a strong high grade ABS case (95 x 90 x 75mm) with a large bold LCD display and 4mm colour coded sockets. Powered by 1 x 9V PP3 Battery (supplied).

- EL18560 **School Ammeter 0 - 10 x 0.01 A.d.c.**
- EL18562 **School Voltmeter 0 - 20 x 0.01 V.d.c.**



GALVANOMETERS MOVING COIL. For d.c. only with 4mm terminals 35 - 0 - 35mV.

EL06830

SPOT GALVANOMETER. A sensitive Spot Galvanometer with five ranges, plus a terminal shorted position and mechanical movement lock for safe transportation and storage of unit. A scale length of 180mm with left and centre zero adjustment. Virtually drift free and ideal for ballistic measurements. Ranges: direct, x1, x0.1, x0.01, x0.001, short. Dimensions: 280 x 220 x 140mm

EL06832



TECHNICIAN'S FRIEND. A truly indispensable tool. It will detect breaks in mains cables, checks plug fuses (without even unplugging the plug), acts as a continuity tester, detects microwaves, H.T. and 3cm waves and has many other uses too numerous to list.

EL06837



OSCILLOSCOPES

OSCILLOSCOPE 3310. 10MHz, SINGLE TRACE. DC—10MHz Bandwidth, 5mV/div Sensitivity, X-Y Operation Mode allows Lissajous Displays, 100ms/div to 100ns/div Time Base, Automatic or normal Trigger mode with Level control, Internal or External Trigger Source. Full Size 140mm Rectangular CRT with Internal Graticules, Supplied complete with Test Leads and comprehensive operating service manual.

EL30300



OSCILLOSCOPE 3305. 25MHz, DUAL TRACE. 5mV/div. Economy Model. DC—25MHz Bandwidth, 5mV/div Sensitivity on both channels, Algebraic Addition and Subtraction, Full X-Y Mode allows Lissajous Displays, 40ns/div to 0.2s/div Time Base, Large 140mm Rectangular CRT with internal Graticules, Triggering to 40MHz, Line Trigger, TV Triggering Frame(V) and Line(H), Variable Hold Off, Supplied complete with test leads and comprehensive operating/service manual.

EL30305



OSCILLOSCOPE 3304, 25MHz, DUAL TRACE. 1m V/div Standard Model. Specifications as Model 3305 but with increased sensitivity to 1mV per division.

EL30310

PC OSCILLOSCOPES

PICO PC BASED OSCILLOSCOPES. PC based instrumentation is an ideal introduction to both oscilloscopes and to using computers in science. It is very likely that PC based instrumentation will replace traditional benchtop equipment as the popularity of PCs continues to grow. It makes a lot of sense therefore to educate future scientists in the use of such instruments.

Learning is easy and exciting. All products run in the familiar Windows environment: full on line help is included should students run in to trouble. The wide variety of experiments possible with Pico equipment makes for interesting learning. Example application notes are available from the Pico Technology web site: www.picotech.com

- A fraction of the cost of comparable benchtop oscilloscopes
- Uses PC monitor for a large colour display
- Can be used with desktop or laptop PCs
- Software supplied with all ADC units
- Easy to install — up and running in minutes
- Compact and portable units

Each unit is also supplied with PicoLog data logging software for high speed data logging. All units are suitable for use with DOS and Windows (3.1x, 95/98, NT/2000).

AD-40/42 LOW COST SINGLE CHANNEL

- Lowest Cost
- No power supply required
- Compact design
- Oscilloscope and data logging software included

Single channel PC based oscilloscopes which plug the unit into the parallel port of your PC, offering 8 and 12 bit resolution. For low frequency signals, the units provide all the functionality of conventional scopes at a fraction of the price.

Technical Specification

Scope Timebases 500uS/div to 50s/div

Spectrum Ranges:

ADC-40 0 to 10kHz, 50dB dynamic range

ADC-42 0 to 7kHz, 65dB dynamic range

Resolution:

ADC-40 8 bit

ADC-42 12 bit

Sampling Rate

ADC-40 20kS/s

ADC-42 15kS/s

Voltage Ranges $\pm 5V$

Channels 1 BNC, 1M Ω DC coupled

Accuracy $\pm 1\%$

PC Connection D25 to PC parallel port

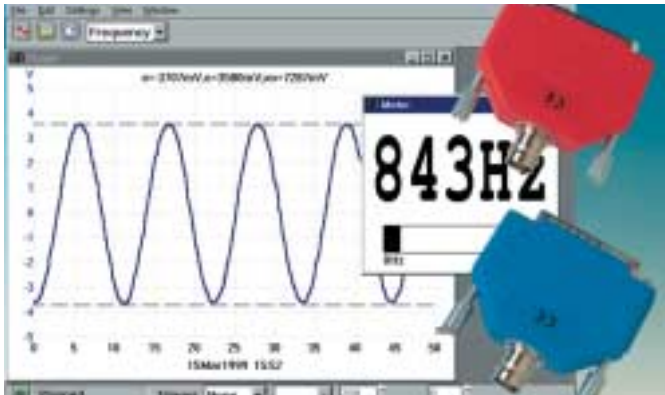
Power Supply No power supply required

[EL30350](#)

[ADC-40 with PicoScope and PicoLog](#)

[EL30355](#)

[ADC-42 with PicoScope and PicoLog](#)



ADC200 HIGH SPEED PC BASED OSCILLOSCOPE

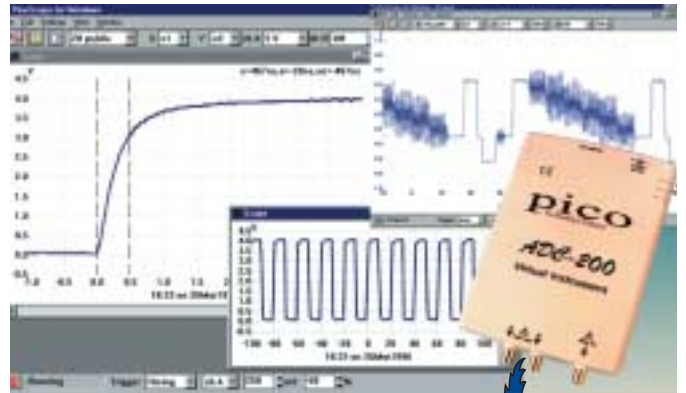
- High speed and performance
- 100MS/s Digital Storage Oscilloscope
- 50MHz Spectrum analyser
- 32K buffer memory
- Oscilloscope and data logging software included

PC based oscilloscopes which offer a performance level only previously available on traditional 'benchtop' scopes. As a general purpose lab scope, the long memory and advanced trigger functions make it ideal for experiments with digital circuits. A library of waveforms showing the correct signals a pupil can expect to achieve is very helpful.

To locate errors in digital signals, the display overwrite option can be used to highlight erroneous events even if they only occur once.

ADC-200 General Specification

	ADC-200/20	ADC-200/50	ADC-200/100
Max sampling rate	20MS/s	50MS/s	100MS/s 1ch. 50MS/s 2ch.
Spectrum ranges	0 to 10MHz	0 to 25MHz	0 to 50MHz
Analog bandwidth	10MHz	25MHz	50MHz
Buffer size	8K	16K	32K
Dynamic range	50dB		
Scope timebases	100ns/div to 50s/div		
Voltage ranges	$\pm 50mV$ to 20V in 9 ranges		
Resolution	8 bits		
Channels	2 x 1M Ω + 1 external trigger		
Accuracy	$\pm 3\%$		
PC connection	D25 to PC parallel port (cable supplied)		
Power Supply	500mA @ 12V (mains adaptor supplied)		
EL30360	ADC-200/20 with PicoScope & PicoLog		
EL30365	ADC-200/50 with PicoScope & PicoLog		
EL30370	ADC-200/100 with PicoScope & PicoLog		



DATALOGGERS



See pages 34 - 42

MULTIMETERS

STUDENT DIGITAL MULTIMETER DT830B. An easy to use compact 3.5 digit LCD multimeter. Supplied with test leads and battery. Size 162 x 86 x 33mm.

Specification: **d.c. Volts:** 200mV to 1000V. **a.c. Volts:** 200V to 750V. **d.c. Current:** 200mA to 10A. **Resistance:** 200Ω to 2000KΩ. **Diode and Transistor:**

EL30400 ①

DIGITAL MULTIMETER 212. A compact 3.5 digit LCD multimeter with 19 Ranges including 10A d.c. current range, diode and continuity test. Supplied with leads, PP3 Battery and spare fuse. Size: 126 x 70 x 25mm.

Specification: **d.c. Volts:** 200mV to 600V (in 5 Ranges) **a.c. Volts:** 200 and 600V. **d.c. current:** 200μA to 10A (in 5 Ranges). **Resistance:** 200Ω to 2M (in 5 Ranges). **Diode and Continuity:** N.P.N or P.N.P

EL06842 ②



STUDENT ADVANCED DIGITAL MULTIMETER DT3900G.

A high specification multimeter for school use with a large 22mm 3.5 digit LCD display, diode and continuity test. Supplied with leads, battery and rubber boot. Size: 172 x 88 x 36mm.

Specification: **a.c. Volts:** 200mV to 700V. **d.c. Volts:** 200mV to 10000V. **a.c. Current:** 20μA to 20A. **dc Current:** 20μA to 20A. **Resistance:** 200Ω to 20MΩ. **Transistor hFE:** 0 to 1000 PNP/NPN

EL30405 ③

DIGITAL MULTIMETER 318. A 3.5 digit LCD multimeter, which is ideal for educational use, with a total of 32 Ranges including transistor, diode and continuity test. Supplied with leads, battery, spare fuse, rubber boot and comprehensive instruction manual. Size 189 x 91 x 32mm.

Specification: **d.c. Volts:** 200mV to 1000V (in 5 Ranges) **a.c. Volts:** 200mV to 700V (in 5 Ranges) **d.c. Current:** 20μA to 10A (in 7 Ranges) **a.c. Current:** 200 μA to 10A (in 6 Ranges) **Resistance:** 200Ω to 200MΩ (in 7 Ranges), **Diode, Transistor:** N.P.N or P.N.P, and **Continuity.**

EL06847 ④



POWER MODULES



MAINS ADAPTERS, Regulated. A range of fully regulated units which plug directly into a standard 240V ac mains socket. Housed in a robust ABS plastic case with a positive action slide switch for selecting output voltage, a red LED light for indicating power - ON and a 2m supply lead with a two-pin female plug. Supplied separately is 6 output plugs and a 9 volt snap which can be plugged into the supply cable. Each plug will fit 2 ways giving the ability to reverse polarity. Each unit incorporates automatic thermal and overload protection cut off.

EL18600 Output voltage: 3, 4.5, 6, 7.5, 9, 12V
Output current: 300mA

EL18602 Output voltage: 3, 6, 9, 12V
Output current: 500mA

EL18604 Output voltage: 3, 6, 9, 12V
Output current: 1000 mA

POWER SUPPLY UNITS

All our power supplies are built to the highest safety standards and are tested and approved for educational and laboratory use.

All our power supplies share the following design features:

- Colour coded 4mm terminal posts are used which will accept 4mm plugs, 2mm plugs, crocodile clips, spade terminals or bared wire
- Short circuit and overload protection
- A moulded 13A plug is supplied ready fitted to all supplies. You literally remove them from the packing and plug them in.

REGULATED POWER SUPPLIES

SCHOOL POWER STATIONS. Safe reliable power supplies, in rugged compact cases with 4mm colour coded sockets. Regulated d.c. voltages of 3, 4.5, 6, 7.5, 9 or 12V d.c. Safety features include short circuit protection, automatic thermal and overload cut-offs, double insulated cases and power on/off switch and indicator lamp.

EL18610 ⑤ Max. output 1.5A. Size: 100 x 140 x 73mm

EL18612 ⑥ Max. output 3A. Size: 122 x 180 x 86mm with carrying handle

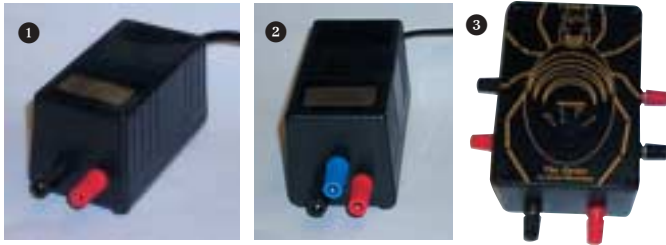


BUDGET RANGE. Offering fixed voltage smoothed and regulated d.c. The units are double, insulated and feature output monitoring by light emitting diode and are housed in a compact, rugged A.B.S. case.

- EL06850A ① 5V x 1A
 EL06850B 6V x 1A
 EL06850C 9V x 1A
 EL06850D ② 15-0-15V 300+300mA

'THE SPIDER' offers smoothed, regulated d.c. voltages of 1.5, 3, 4.5 or 6V d.c. which are selected by a rotary switch. Max output current is 1.0A. Other features include a mains on/off power indicator and an output voltage indicator in the spider's eyes (If he winks call the teacher). Output is via four pairs of colour coded 4mm terminals. Housed in a rugged A.B.S. case.

EL06853 ③



DUAL RAIL POWER SUPPLY. A multi-output dual power supply offering +15V, +12V, +5V, 0, -5V, -12V, -15V through seven terminals at 1A per rail. This allows great flexibility giving 11 single rail voltages and 33 symmetrical and asymmetrical dual rail voltages. Housed in a strong, stackable metal case.

EL06854 ④

SWITCHED DUAL RAIL POWER SUPPLY. A robust, metal cased unit that offer 5 smoothed and regulated dual rail outputs: 5-0-5V, 6-0-6V, 9-0-9V, 12-0-12V or 15-0-15V at 1A per rail. The unit may also be used as a single rail supply offering 5, 6, 9, 10, 12, 18, 24 or 30V at 1A. Voltages are selected by a rotary switch. The outputs, which are short circuit and overload protected, are monitored by a sophisticated 'traffic light' system. When the unit is operating correctly the monitors glow green changing to red if an output is short circuited.

EL06855 ⑤



UNREGULATED POWER SUPPLIES

POWERSWITCH. A compact power supply offering 2, 4, 6, 8, 10, 12 Volts at currents of up to 5A. Both d.c. and a.c. outputs may be used simultaneously up to the rated output. The output is protected by a push button cut-out. The unit is 2A fused on the back panel. Complete with moulded mains lead and plug.

EL06857 ⑥



POWERLOCK. Similar to the Powerswitch but voltage selection is made using a keyswitch. The key may be removed in any position.

EL06859 ⑦

POWER SUPPLY 2A. Specifically designed for use with ray boxes, ripple tank illuminants, L.V. microscope lamps, smokecells etc. Output is 12V d.c. at upto 25 Watts and is monitored by a LED. Housed in a rugged A.B.S. case.

EL06862 ⑧



POWER SUPPLY 5A. AC/DC. This rugged, steel cased unit offers simultaneous, unregulated, a.c. and d.c. outputs, of 1 to 12V in 1V steps, at up to 5A. A keylock feature allows the teacher to limit the maximum output voltage to 6V by electronically inhibiting the higher voltages. The key may be removed in either position. The outputs are protected by a fast acting, automatically resetting cutout which operates if the outputs are short circuited or overloaded.

EL06864 ⑨

LOCKABLE POWER SUPPLY 6A AC/DC. The unit offers a.c. voltages of 2, 4, 6, 8, 10 or 12 volts and capacitor smoothed d.c. voltages of 1, 4, 7, 10, 13 or 15 volts. Separate a.c. and d.c. colour coded terminals are provided and a.c. and d.c. voltages may be used simultaneously up to a maximum combined load of 6 amps. An earth terminal is also provided should rail clamping be required. The voltages are selected by a six position keyswitch - the key is removable in any position. Keys are of a common profile so that one key will switch any unit. The output voltage is monitored by a sophisticated system which detects overloads and short circuits and cuts power to the terminals under these conditions. Tripping is indicated by a buzzer sounding and the output monitor LED turning from green to red, thereby allowing the teacher to locate the tripped unit from across the room. Reset is achieved by switching off the mains switch for 5 seconds. The unit comes housed in a rugged steel case with carrying handle and is stackable. Mains input is via a rear panel mounted, fused, IEC connector and a detachable IEC lead with moulded mains plug.

EL06866



POWER SUPPLY 8A AC/DC. The unit delivers outputs of 2, 4, 6, 8, 10, or 12 volts a.c. or full wave rectified d.c., through 2 pairs of red and black 4mm terminals. The output voltage is selected by a front panel rotary switch and an a.c./d.c. selector keyswitch with removable key. The maximum available output voltage, indicated on a row of red LEDs, may be set by inserting a screwdriver into a recessed control under the unit. Continuous output current of 8 Amps with a front panel earth 4mm terminal. The unit is housed in a black powder coated, stackable steel case with carrying handle. Mains input is via a fused IEC connector and detachable IEC lead with moulded plug. Size: 240 x 140 x 125mm.

EL06868



POWER SUPPLY 8A AC/DC. A rugged power supply, designed to meet the demands of Physics and Chemistry departments, offering a continuously variable output of 0-25 volts a.c. at 8A continuous rating. Simultaneously it also offers a smoothed continuously variable d.c. output of 0-35 volts at 5A. The outputs are controlled by a heavy duty rotary transformer and protected by a push button cutout and are via colour coded 4mm terminal posts. The unit is housed in a powder coated steel case with carrying handle. Complete with fixed mains lead and mains earth terminal.

EL06869



E.H.T. POWER SUPPLY. 0 to 5000 V d.c output. Both polarities isolated from ground, short circuit protected, shrouded output terminals for user safety, 3mA load current, 5mA intermittent, output metering auxillary isolated A.C. filament supply.

Specifications:-

EHT Polarity:	Floating positive and negative terminals enabling either side to be earthed
Load Current:	3mA continuous. 1mA intermittent
A.C. Filament Supply:	6V or 12V a.c. with 6W output. Rating 6V/1A or 12V/0.5A
E.H.T. Metering:	0-5KV d.c. Voltmeter with 72mm scale length.
Size:	220 x 135 x 220mm
Weight:	3.5Kg
Output Voltage:	0 - 5000 V d.c.

EL42300



ELECTRICITY & ELECTRONICS KITS

WORCESTER CIRCUIT BOARD. For performing experiments and follow up investigations into electricity. Consisting of: 1 x Base board, 12 plain connectors, 9 lamp holders, 1 connector with rheostat, 2 mounted push switches, 1 resistor, 1 rectifier, 2 leads with 4mm plug and crocodile clip, 2 leads with crocodile clips, 2 crocodile clips, 1 reel of bare copper wire, 1 reel of bare Eureka wire, 1 reel plastic covered copper wire, 1 piece copper foil, 1 piece steel wool, 1 hardboard disc, 10 lamps 1.25V, 2 soft iron nails, 4 pencil leads and full instruction book.

EL30220

SPARES FOR WORCESTER CIRCUIT BOARD

EL30225	Plain Connector
EL30226	Lamp Connector with lamp
EL30227	Mounted Bell Push
EL30228	Rheostat Connector
EL30229	Circuit Board only



TIMSTAR ELECTRICITY KIT

BASIC ELECTRICITY SYSTEM - B.E.S

A simple electricity kit designed to make the teaching of electricity fun. The kit contains robust components mounted on blue perspex holders fitted with colour coded 4 mm sockets. The panels may be formed into circuits by interconnecting with 4mm plugged leads.

The kit comes complete with a comprehensive teachers' guide that is designed to give the non-specialist all the information they will need to be able to teach the subject with confidence.

Kit comprises:

- 6 cell holders (C type cells required)
- 6 lamp holders complete with bulb
- 2 push button switches
- 2 changeover switches
- 1 motor
- 1 buzzer
- 1 component holder
- 10 stackable 4mm plugged leads 500mm
- 1 Teachers Guide

All the above is contained in a colour coded Gratnell tray with lid

EL30260



B.E.S COMPONENTS For use in conjunction with the B.E.S or as stand alone mounted components.

EL30270	①	Lamp Holder - complete with bulb
EL30272	②	Cell Holder (1 x C Cell)
EL30274	③	Push Switch
EL30276	④	Changeover Switch
EL30278	⑤	Buzzer
EL30280	⑥	Motor
EL30282	⑦	Component Holder
EL30284		Potentiometer

Spares & Accessories

EL06661	MES Bulbs 6.0V/0.06A
EL066020	Stackable 4 mm plugged leads, 500mm Black
EL066023	Stackable 4 mm plugged leads, 500mm Red
BA01960	Battery C-Cell



MICROPHYSICS



MicroPhysics Basic Kit.

This kit allows students to study the basic principles of electricity. Topics covered include:- batteries and current flow, circuits - direction, series and parallel. Magnetic effects and chemical reactions and electricity in the home.

- M119600 MicroPhysics - Basic Electricity kit
- M119602 Teachers Manual
- M119604 Student Worksheets

locktronics

CIRCUIT BOARDS

The Locktronics range of kits for teaching the principles of electricity and electronics, are robust, reliable and proven in service for more than 25 years. More than 3000 UK secondary schools currently use Locktronics to give clear, quickly constructed, working circuits which are identical to the diagrammatic circuit representation. Teaching is made easy by the comprehensive support documentation, and pupils enjoy the ability to construct working circuits easily and completely without the use of tools.

Kits are available for all age levels, and for all electrical/electronic topics from simple discrete component circuits, to systems electronics, logic, and computer control. A few of the popular kits in this comprehensive range are listed below. All Locktronics components are also individually available to provide simple extension or upgrade of existing kits. A Locktronics baseboard is required on which to construct circuits. Locktronics is on a large physical scale to allow kits to be shared between two, or in some schools, three pupils.

SCIENCE KEYSTAGE 2 AND 3 KIT The Locktronics Keystage 2 and 3 kit is the first teaching kit in the UK to be developed to meet all the requirements for the Electricity and Magnetism elements of the new Science National Curriculum.

A superb range of copyright free worksheets has been produced which makes this difficult subject interesting, appealing, and enables pupils to relate their work to the electrical things they see around them. Supplied without Baseboard. The kit can be operated from either batteries or power supplies.

- 410-7350 LK77 Kit



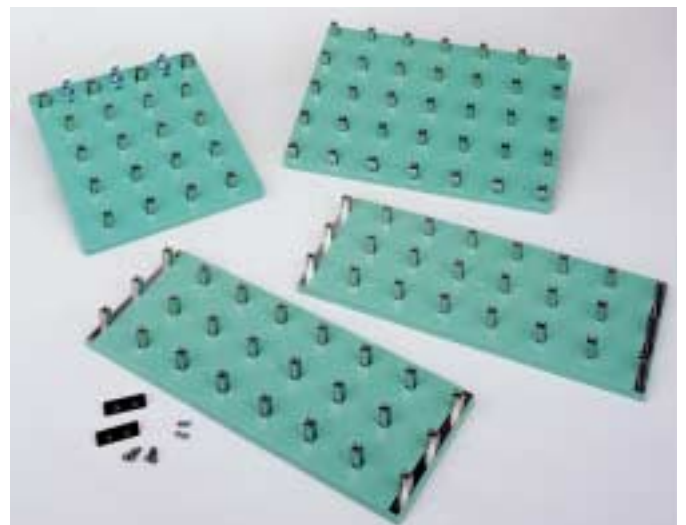
SCIENCE KEYSTAGE 4 KIT This kit is available in two forms either as an economical 'add-on' to the KS2 and 3 kit, or as a full stand-alone kit. A full copyright free support pack has been developed covering potential dividers, diodes, transistors, capacitors and timers, relays, sensors and output transducers, switching circuits, gates and logic, electronic systems, feedback and control, resistance, power and energy, as well as teachers notes and puzzle pages. Kits are supplied without Baseboard.

- 410-4130FA Key Stage 4 Kit with ANSI Gate Symbols
- 410-4130FS Key Stage 4 Kit with Systems Gate Symbols
- 410-4130PA KS4 (Reduced Kit) to add on to KS2 and 3 with ANSI Gate Symbols
- 410-4130PS KS4 (Reduced Kit) to add on to KS2 and 3 with Systems Gate Symbols



BASEBOARDS

- 410-3000 Base Board LK50 (4 x 4 Matrix with battery Clips)
- 410-8900 Base Board LK750 (7 x 5 Matrix)
- 410-0500 Base Board LK0 (8 x 3 Matrix with Power Rails)



Full price list of **locktronics** Kits and Spares available on request

ELECTROLYSIS

VOLTAMETER. Hoffman

EL06870 Ungraduated

EL06875 ① Graduated 0 to 50 x 0.2 ml

EL06880 Metal stand with base, rod and clamps

ELECTRODES

EL06884 Carbon Electrodes with wire terminals

EL06885 Carbon Electrodes with screw terminals

EL06886 Carbon Rods 100 x 5 mm

EL06887 Carbon Rods 200 x 8 mm

EL06889 Platinum Electrodes with wire terminals

EL06890 Platinum Electrodes with screw terminals

ELECTROLYSIS CELLS. Each cell consists of a 75 x 25mm glass cylinder with a 2 hole rubber stopper fitted with 2 carbon electrodes. Electrical contact is made through the crocodile clips and a piece of insulating material between the electrodes prevents short circuiting. The gases evolved are collected in two 75 x 10mm test tubes suspended over the electrodes by a piece of wood and rubber bands.

EL06891 ②



ELECTROSTATICS

FRICTION RODS. 300 x 12mm.

EL18665 ③ Ebonite

EL18666 ④ Glass

EL18667 ⑤ Perspex

SALT BRIDGE. Consisting of an inverted U-tube with its ends closed by sintered discs. Size: Arms 13mm dia. Width 80mm. Height 100mm.

EL06893 ⑥

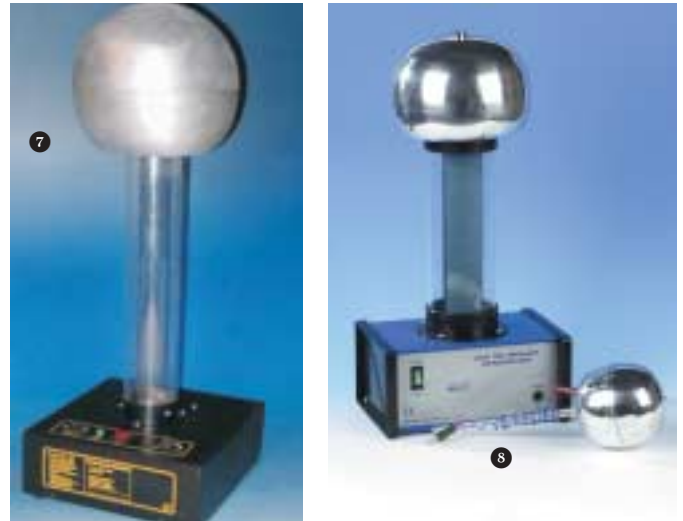


VAN DE GRAAFF GENERATOR. For production of high voltage electricity for a wide array of electrostatic experiments. Complete with speed adjustment and earth socket on the base. Overall height: 780mm. Sphere dia. 250mm. For 220/240V.

EL30450 ⑦

Spares:

EL30455 Spare Belt for Van de Graaff Generator



VAN DE GRAAFF ACCESSORIES KIT. Consisting of Head of Hair, Charge Attractor, Ions in Motion Simulator, Faraday Pail and a Bouncing Ball.

EL30460

VAN DE GRAAFF GENERATOR. A robust motor driven Van de Graaff generator with a 200mm diameter sphere using traditional methods of producing high voltages (upto 200KV) for electrostatics. Complete with a 10cm diameter discharge sphere, head of hair, Faraday pail, Neon bulb, Ions in motion simulator and spare belt.

EL18669 ⑧

WIMSHURST MACHINE. The device generates high voltages for electrostatic experiments. Voltages of upto 160 kV and sparks 80mm long are possible under ideal conditions. A charge is generated by revolving the two plates in opposite directions. The charge is then collected and stored in leyden jars and discharged by the adjustable electrodes. Plate dia. 30cm.

EL40200 ⑨

GOLD LEAF ELECTROSCOPE. Rectangular case fitted with a 4mm earthing socket. Front glass window slides up to allow insertion of ionising material. Fitted with gold leaf support plate and aluminium scale with 6 radial notches of 10°. Complete with one pair of gold leaves.

EL42420 ⑩ Gold leaf Electroscope

EL42422 Spare Gold leaf



ENVIRONMENTAL SCIENCE

FIELD STUDIES

NETS 'Timstar'. A range of professional nets with strong aluminium frames and handles. Each item is available separately. ①

- EN18670 Butterfly Net 750mm deep
- EN18671 Plankton Net 500mm deep
- EN18672 Sweep Net 400mm deep
- EN18673 Pond Net 200mm deep
- EN18676 Aluminium Frame 450mm dia.
- EN18677 Plain Aluminium Handle 1.2M
- EN18678 Telescopic Aluminium Handle 1.2 to 2.2M

NETS, INSECT. A strong fine net with catching all types of flying insects. 300mm dia. x 720mm deep on a 760mm handle.

EN06971 ②

NETS, DIPPING. 120x100mm frame with Frymesh netting on a 300mm strong UPVC handle.

EN06974 ③



NETS, WATER - 'Junior Pond Net'. 200 x 150mm frame with micromesh netting on 900mm strong UPVC handle.

EN06976 ④

NETS, WATER, 300 x 150mm D-Shape frame, micromesh net with anti-wear rubbing bar, complete with strong 900mm. UPVC handle.

EN06978

PINS, Entomological. 38mm long. In packs of 100.

- EN07000 English Brass No. 5
- EN07002 English Brass No. 12

PINS, SETTING. 30mm long with plastic heads. In packs of 100

EN07020

POND DIPPERS. Ideal for taking samples from ponds and streams. Specimens are retained in the sample pot, which can be removed and capped for taking back to the classroom. The set contains two complete dippers and eight spare sample tubes.

- EN07032 ⑤ Pond Dippers
- BO03090 Sample Tubes



MARINE VIEWER For viewing pond life in their natural habitat. To use, just lower into a pond or stream and the viewer looks down the opening at the top. A mirror set at 45 (degrees) reveals the pond life directly in front

EN07033 ⑥

POOTERS, PERRY'S All plastic construction. Strong clear 70ml container with airtight lid and two clear flexible tubes. A safe filter prevents specimens reaching the sucking tube

EN07036 ⑦



PLANT PRESS, Portable plant press, nylon coated wire frames 440 x 280mm with webbing straps.

EN07046 ⑧

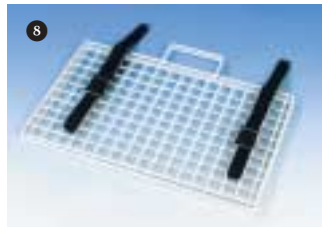
Accessories:

PAPER. Size 445 x 228mm

- EN07047 Drying
- EN07048 Mounting

QUADRAT, FOLDING. For population counts and other measurements in the field. Consists of 4 white plastic coated steel rods 0.5M long with markers at 0.25M, which simply bolt together to form a quadrat frame. Folds flat when not in use.

EN07056 ⑨



SMALL MAMMAL TRAP. 'LONGWORTH' Aluminium.

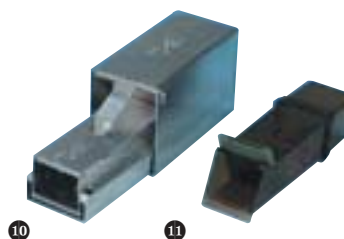
EN07062 ⑩

SMALL MAMMAL TRAP. Plastic (Trip-Trap).

EN07064 ⑪

VIEWER, NATURE. Ideal for examining small insects, pond life, etc. Consisting of a 70mm diameter lens with a 3.5 magnification mounted on a 60mm deep box with a metric grid base. The box has a clip in the base which allows two units to be used together to achieve clear zoom magnification.

EN07070 ⑫



TWO WAY VIEWER. Ideal field study viewer. Specimens can be viewed from above and from the side. Size: 190 x 130mm

EN07072 ①

HAND MAGNIFIERS see under **MAGNIFIERS**

NATURESCOPE. A self contained mobile laboratory for the field study of plant, pond and insect life. The large viewing tank can be used to scoop up specimens and examine them in more detail by focusing on the central magnifying lens. Comes complete with a tough adjustable strap, 2 small removeable magnifying pots, collecting tweezers and a scale for measurements. All lenses have a magnification of x2.

EN07080 ②

YOUNG NATURALIST. The large clear plastic box may be used to scoop up specimens and examine them in the 6 transparent pots with magnifying lids. The box can be used as a viewing panel to peer under water.

EN07085 ③



RAIN

WATER CYCLE MODEL. Ideal for teaching the principles of the water cycle. Fill the ocean with water, load the cloud with ice and switch on the 'Sun' (a desk lamp — not supplied). The rain will then fall over the hills and run into the rivers and back into the ocean. Supplied with full teachers notes and experiments. Size: 300 x 200 x 120mm approx.

EN07180 ④

ACID RAIN TEST KIT. Ideal introduction to Acid Rain Testing. Totally self contained including indicator solutions, test tubes, measuring syringes, combined reading charts and full instructions. For up to 60 tests.

EN07182 ⑤



ROCK, MINERAL AND FOSSIL SETS

All the following sets are supplied in a sectionalised plastic tray within a strong card box. Each specimen is numbered and the contents are listed inside the lid. Supplied complete with instruction notes.

PRIMARY ROCK SET. A set of 12 rock samples, ideal for science observation and classification, which have been selected for their wide ranging properties. Each sample measures approx. 50 x 40mm.

EN071950



NATIONAL CURRICULUM ROCK SET. A set of 25 rock samples including igneous, metamorphic and sedimentary rock types. Each sample measures approx. 50 x 40mm.

EN071952

PRIMARY MINERAL SET. A set of samples of the most commonly occurring minerals. Each sample measures approx. 40 x 40mm.

EN071953 Set of 12 Minerals

EN071954 Set of 25 Minerals

NATIONAL CURRICULUM MINERAL SET. Set of minerals including rock-forming, metal ore, evaporite and gangue minerals. Each sample measures approx. 40 x 40mm

EN071956 Set of 12 minerals

EN071958 Set of 25 minerals

EARLY LIFE FOSSIL SET. A set of 15 superb samples of early life fossils.

EN071960



GEOLOGICAL HAMMER. Expert quality, incorporating a honed chisel end and a fully polished and hardened square striking face. Fitted with a seasoned hickory handle. Mass: 450g.

EN071966



SURVEYING

HELIOS BINOCULARS 'FIELDMASTER' A range of porro-prism binoculars offering an exceptional combination of performance, features and value. All models feature Bak-4 prisms, multi-coated optics, long-eye relief, fold back rubber eyecups and tripod adaptor busk. Supplied with neck-strap and case

BIO2535
BIO2536
BIO2537

Fieldmaster 8 x 40
Fieldmaster 7 x 50
Fieldmaster 10 x 5



CLINOMETER 'INVICTA' A lightweight angle and height measuring instrument. Point it at the top of a building or tree, pull the trigger, and then read the angle on the protractor. Height is easy to calculate using the guide supplied

ME10344



ORIENTEERING COMPASS

SILVA FIELD 7 Ideal first compass for educational requirements. Graduation: 360 x 2°. Scale: mm, 1:50k and 1:25k. Size: 75 x 50mm
CO04620

SILVA RANGER 3 A compass for more experienced users, with a built in magnifier and luminous marks to aid night use, Graduations: 360 x 2°. Scale: mm, 1:50k and 1:25k. Size 100 x 54mm.
CO04622

SILVA EXPEDITION 4 A compass for experienced users with built in magnifiers and luminous points. Graduations: 360 x 2° Scales: 1:25k, 1:50k, 1:63:63k, mm and inches. Size 125 x 60mm
CO04624



RANGING POLES. For survey field work. PVC covered wooden poles 2M long x 28mm dia. with solid steel points. Red and white graduated every 50cm.

EN07058 1

TAPE MEASURE. Fibreglass tape measure in ABS plastic case with a plated flush winding handle. Width 13mm. Graduated in Metres/cm and mm with Feet/Inches on the reverse.

ME10326 2 Length 20M

ME10327 Length 30M



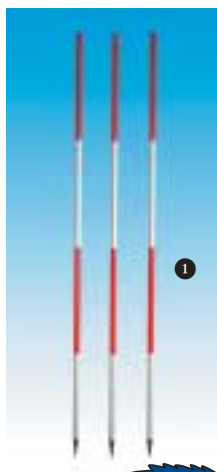
TAPE MEASURE. Fibreglass tape measure in a strong ABS plastic open frame with spade handle. Width 13mm. Graduated in Metres/cm and mm with feet and inches on the reverse.

ME10328 3 Length 30M

ME10329 Length 60M

THEODOLITE. A lightweight instrument with strong adjustable legs and built-in level indicator. Both the horizontal and vertical scales are clearly graduated in degrees giving measurements to an accuracy of 1/2 a degree. Complete with full instructions.

ME10345 4



SOIL TESTING KITS & METERS

See pages 141 - 142

TRUNDLE WHEEL. 'INVICTA'. Made of heavy gauge plastic with a rubber tyre. Circumference of the wheel is 1M and gives an audible click every 10cm and 1M.

MEI0330 ①

MEASURING WHEEL. A professional 5 digit measuring wheel made from lightweight aluminium with a Hi-Grade ABS plastic display module and an oil resistant tyre. Adjustable shank with twist grip lock from 65 to 125cm. Maximum reading 9999.95 metres with roll over. Can be used for forward or reverse measuring. Complete with full instructions.

MEI9060 ② Measuring Wheel

MEI9061 Carrying Case with shoulder strap



WEATHER

ANEMOMETER, 'INVICTA'. A unique design feature gives a direct reading of wind speed without the need to count revolutions. The low & high calibrations register ms^{-1} and the Beaufort scale. Can be hand held or fixed permanently.

EN071970 ③

ANEMOMETER, 'SKYWATCH METEOS'. A handheld digital instrument measuring windspeed, temperature and wind chill:- km/h, knots, mph or m/s. Temperature modes:- current temperature, wind chill factor, minimum and maximum temperature in $^{\circ}\text{C}$ or $^{\circ}\text{F}$. Temperature Range:- -30°C to 70° . Wind direction:- Compass intergrated in the cap. Powered by one lithium cell. Size 62 x 12 x 32mm

EN071972 ④



WIND SPEED METER. A hand held, simple to use meter, ideal for student field work. Wind speed is indicated by a small white ball moving in a narrow tube against the scale. Ranges 2 to 10 and 4 to 66mph. Complete with plastic wallet, maintenance kit and instructions.

EN071974 ⑤

WIND SPEED INDICATOR. A direct reading, hand held instrument that measures wind speed upto 50mph or 88kph. Fitted with integral compass to indicate wind direction.

EN071976 ⑥

RAIN GAUGE, Cylindrical copper body with 127mm dia. funnel and separate measuring jar calibrated in mm and inches. Complete with Weather Register.

EN071980 ⑦

RAIN GAUGE, Cylindrical plastic body with 100mm dia. funnel. Internal jar acts as direct reading measure in mm and inches. Complete with Weather Register.

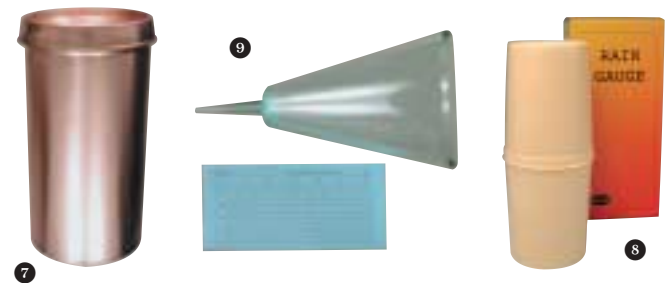
EN071982 ⑧

DIRECT RAIN GAUGE. Reads from 0 to 50mm. (0 to 2") of rainfall and has a moulded spike for inserting in the ground.

EN071984 ⑨

DIRECT RAIN GAUGE 'INVICTA'. An accurate rain gauge graduated in mm. Can be used free-standing or with the spike provided. Supplied with lid to prevent spillage if the gauge is carried.

EN071986 ⑩



WEATHER WATCHERS KIT. An attractively boxed outfit for meteorologists of all ages. Contains Direct Rainfall Measure with spiked tip, Max-Min Thermometer, and 2-year log book with detailed instructions and charts.

EN071988 ⑪



BAROMETERS

See Page 11

LIGHT METERS

See Page 87

HYGROMETERS

See Pages 84 - 85

WEATHER BOARD 'INVICTA'. The 7-Day Weather Board (40.5 x 39cm) has nine aspects to record weather conditions, including cloud formations, wind direction and strength. An excellent way of encouraging children to learn about the weather and our environment. Made from hardwearing material for indoor and outdoor use. Complete with full instructions.

EN071990 ①

WEATHER VANE 'INVICTA'. A simple, practical weather vane which can be hand held or permanently fixed. It can be completely dismantled which encourages children to incorporate any part using their own designs.

EN071992 ②



EXTRACTION

EXTRACTION THIMBLES 'Whatman'. Single thickness, boxes of 25.

- EX07210 22mm x 80mm
- EX07215 25mm x 80mm
- EX07220 25mm x 100mm



FANS

FANS, OSCILLATING. Free standing, three bladed fans which are protected by a wire cage. Can be tilted to a convenient angle. For 220/240V.

- FA07230 ③ Fan 230mm dia. 2 speed
- FA07232 Fan 300mm dia. 3 speed

FILTRATION

TIMSTAR FILTER PAPER

FILTER PAPER, 'Timstar' School Grade. In Packs of 100.

- | | |
|-----------|-------|
| | Dia. |
| FI07250 ④ | 90mm |
| FI07251 | 110mm |
| FI07252 | 125mm |
| FI07253 | 150mm |

FILTER PAPER, 'Timstar' Elementary Grade In Packs of 100.

- | | |
|---------|-------|
| | Dia. |
| FI07240 | 55mm |
| FI07241 | 70mm |
| FI07242 | 90mm |
| FI07243 | 110mm |
| FI07244 | 125mm |
| FI07245 | 150mm |
| FI07246 | 185mm |
| FI07247 | 240mm |
| FI07248 | 270mm |



FILTER PAPER, 'Timstar' Grade No. 1. In Packs of 100.

- | | |
|-----------|-------|
| | Dia. |
| FI07260 ⑤ | 55mm |
| FI07261 | 70mm |
| FI07262 | 90mm |
| FI07263 | 110mm |
| FI07264 | 125mm |
| FI07265 | 150mm |
| FI07266 | 185mm |





FILTER FUNNELS

See page 71

FUNNEL STANDS

See page 145



VISIT OUR WEBSITE

WWW.TIMSTAR.CO.UK

for up to date products and offers

WHATMAN FILTER PAPER

FILTER PAPER 'Whatman', Student Grade. Medium/fast flow rate, smooth finish. In Packs of 100.

	Dia.
FI07310 ①	125mm
FI07315	150mm
FI07320	185mm

FILTER PAPERS 'Whatman', Grade No. 1. The most widely used general purpose paper. Medium/fast flow rate. In packs of 100.

	Dia.
FI07340 ②	42.5mm
FI07345	55mm
FI07350	70mm
FI07355	90mm
FI07360	110mm
FI07365	125mm
FI07370	150mm
FI07375	185mm
FI07380	240mm
FI07385	320mm

FILTER PAPERS 'Whatman', Grade No. 2. Slightly thicker and more retentive than No. 1. Medium/fast flow rate. In Packs of 100.

	Dia.
FI07400 ③	55mm
FI07405	70mm
FI07410	90mm
FI07415	110mm
FI07420	125mm
FI07425	150mm



FILTER PAPERS 'Whatman', Grade No. 4. Excellent retention of coarse and gelatinous precipitates. Fast flow rate. In packs of 100.

	Dia.
FI07500	90mm
FI07505	110mm
FI07510	125mm
FI07515	150mm

BESIDES THE ABOVE WE STOCK & SUPPLY THE FULL RANGE OF WHATMAN FILTER PAPERS INCLUDING HARDENED FILTERS, ASHLESS FILTERS, FOLDED FILTERS, GLASS MICROFIBRE FILTERS AND MEMBRANE FILTERS — PLEASE CONTACT OUR SALES DEPT.

GLASS WOOL
FI07601

FILTER PUMPS

FILTER PUMP, Nickel plated brass, water connector 11mm dia. Vacuum connector 8mm dia.

FI07605 ④

FILTER PUMP, 'Edward' Model 10, made from corrosion resistant plastic with integral non-return valve.

FI07610 ⑤



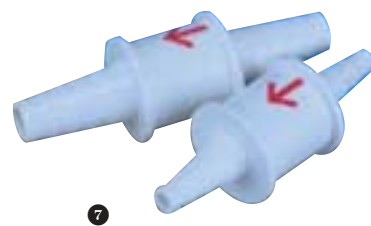
FILTER PUMP, Polypropylene with integral non-return valve.

FI07615 ⑥

NON-RETURN VALVES, Polypropylene. Designed for use in vacuum lines and to prevent back pressure in filter flasks.

O.D. of Valve Arms.

FI07620 ⑦	4 - 7mm
FI07625	7 - 12mm
FI07630	12 - 15mm



FILTER TUBES

FILTER TUBES, Borosilicate Glass with side arm.

	Length x Dia.
FI07640 ⑧	125 x 16mm
FI07645	150 x 19mm
FI07650	150 x 24mm



FLAME TESTING

BLOWPIPES. Nickel plated copper, length 200mm.

- FL07700 ① With mouthpiece.
 FL07705 ② Without mouthpiece.

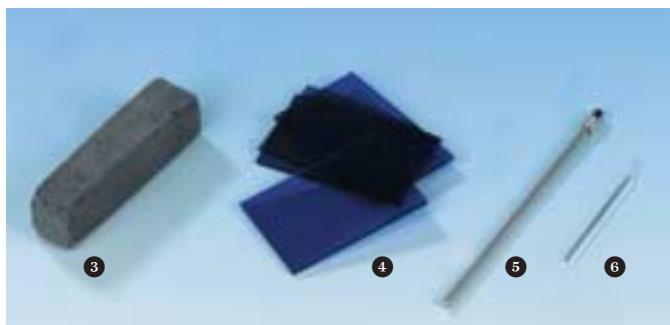


CHARCOAL BLOCKS. Compressed, 100 x 25 x 25mm.

- FL07710 ③
 FL07711

FLAME TEST GLASSES, Cobalt blue. Size 75 x 50mm.

- FL07720 ④



PLATINUM WIRE. Fused into glass handle.

- FL07725 ⑤

PLATINUM WIRE HOLDERS. Aluminium, 150mm with adjustable chuck.

- FL07730 ⑥

FL07731

FLASKS

FLASK. 'Pyrex' Glass. Round bottom.

	Capacity	Stopper Size
FL07800	100ml	17
FL07805	250ml	31
FL07810	500ml	31
FL07815	1 Lt.	37
FL07820	2 Lt.	41



FLASK. Borosilicate Glass. Round bottom.

	Capacity	Stopper Size
FL07825	100ml	19
FL07826	250ml	31
FL07827	500ml	31
FL07828	1Lt	37

FLASK. 'Pyrex' Glass. Flat bottom.

	Capacity	Stopper Size
FL07830 ⑦	100ml	17
FL07835	250ml	31
FL07840	500ml	31
FL07845	1 Lt.	37

FLASK. Borosilicate Glass. Flat bottom.

	Capacity	Stopper Size
FL07856	100ml	19
FL07857	250ml	31
FL07858	500ml	31
FL07859	1Lt	37

FLASK, CONICAL. 'Pyrex' Glass. Narrowmouth, graduated.

	Capacity	Stopper Size	
FL07860 ⑧	25ml	17	FL07861
FL07865	50ml	17	FL07866
FL07870	100ml	17	FL07871
FL07875	250ml	31	FL07876
FL07880	500ml	31	FL07881
FL07885	1Lt.	33	FL07886
FL07890	2Lt.	41	

FLASK, CONICAL. Borosilicate Glass. Narrowmouth, graduated.

	Capacity	Stopper Size
FL07900 ⑨	100ml	19
FL07905	250ml	31
FL07910	500ml	31
FL07915	1 Lt.	39



FLASK, CONICAL. Economy 'Bomex' Borosilicate Glass. Graduated

	Capacity	Stopper Size
FL47920	100ml	29
FL07921	250ml	31
FL07922	500ml	31

FLASKS, CONICAL. Polypropylene 'Azlon'. Narrowmouth, graduated. Complete with stopper.

	Capacity	Neck Size
FL18680 ⑩	125ml	24/29
FL18681	250ml	29/32
FL18682	500ml	34/35

FLASK, CONICAL. 'Pyrex' Glass. Wide mouth, graduated

	Capacity	Stopper Size	
FL07925 ①	100ml	29	FL07926
FL07930	250ml	45	FL07931
FL07935	500ml	45	FL07936

FLASK, CONICAL. Borosilicate Glass. Wide mouth, graduated.

	Capacity	Stopper Size
FL07946 ①	100ml	31
FL07947	250ml	45
FL07948	500ml	45

FILTER FLASK. 'Pyrex' Glass. Heavy wall with integral side arm. To ISO6556.

	Capacity	Stopper Size
FL07955 ②	100ml	21
FL07956	250ml	33
FL07957	500ml	33
FL07958	1Lt	41



FLASK, FILTER. Borosilicate Glass. Heavy wall with push-in plastic side arm.

	Capacity	Stopper Size
FL07961 ③	100ml	21
FL07962	250ml	33
FL07963	500ml	33

Spares

FL07966 Complete plastic connector

FLASK, FILTER. Borosilicate Glass. Heavy wall with integral side arm.

	Capacity	Stopper Size
FL07975 ②	100ml	21
FL07976	250ml	33
FL07977	500ml	33
FL07978	1000ml	41

FLASK, FILTER. Polypropylene 'Azlon'. Heavy wall with side arm. Capacity 250ml. Neck size 29/32.

FL18688 ④



FLASK, DISTILLATION. 'Pyrex' Glass. With side arm to BS 658.

	Capacity
FL07980 ⑤	150ml
FL07985	250ml
FL07990	500ml

FLASK, VOLUMETRIC, Glass. Class B with interchangeable polypropylene stoppers to BS 1792.

	Capacity
FL08000 ⑥	5ml
FL08005	10ml
FL08010	25ml
FL08015	50ml
FL08020	100ml
FL08025	250ml
FL08030	500ml
FL08035	1Lt.
FL08040	2Lt.
FL08042	5Lt.

FLASK, VOLUMETRIC. Polypropylene 'Azlon'. Class B with stopper.

FL18692 ⑦ Capacity-250ml Neck size-19/26



FRACTIONATING COLUMN.

FRACTIONATING COLUMN, rod and disc type. Borosilicate glass. Length 480mm. 20 discs.

FR08060 ⑧



FUNNELS

FUNNELS, FILTER. Borosilicate Glass. Plain Pattern.

	Top Dia.
FU08100 ①	40mm
FU08105	55mm
FU08110	75mm
FU08115	100mm
FU08120	150mm
FU08125	200mm

FUNNELS, FILTER. 'Pyrex' Glass. Plain Pattern.

	Top Dia.
FU08130 ②	45mm
FU08135	75mm
FU08140	100mm
FU08145	150mm

FUNNELS, FILTER. 'Pyrex' Glass. With long stem and fluted internally for rapid filtration. Top diameter 75mm.

FU08160

FUNNELS, FILTER. H.D.PE. with external ribs and hanging eye.

	Top Dia
FU08290 ③	75mm
FU08292	95mm
FU08294	120mm



FUNNELS, FILTER. Polythene, with external ribs.

	Top Dia
FU08301 ④	37mm
FU08302	65mm
FU08303	90mm
FU08304	115mm
FU08306	140mm
FU08307	165mm
FU08308	205mm

FUNNELS, POWDER. Polypropylene. Top Dia. x stem dia.

FU08340 ⑤	80mm x 22mm
FU08345	100mm x 26mm
FU08350	120mm x 30mm
FU08355	150mm x 36mm

FUNNELS, BUCHNER. Porcelain. Grade A with perforated plate, size given is diameter of filter paper required for funnel.

	Dia.
FU08360 ⑥	4.25cm
FU08365	5.5cm
FU08370	7.0cm
FU08375	9.0cm
FU08380	11.0cm
FU08385	12.5cm



FUNNELS, BUCHNER, Porcelain. Economy Grade with perforated plate, size given is diameter of filter paper required for funnel.

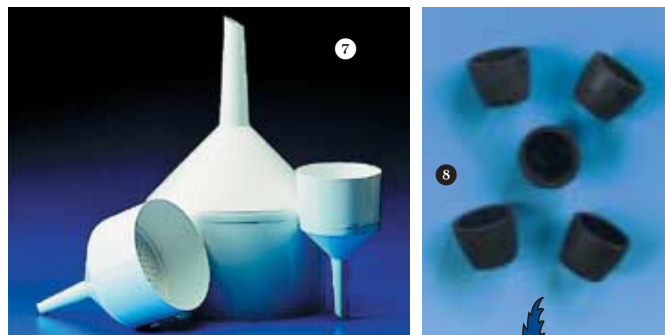
	Dia.
FU08386	7.0cm
FU08387	9.0cm

FUNNELS, BUCHNER. Polypropylene, light weight. Top and bottom can be separated for easy cleaning. Autoclavable to 120°C. Size given is diameter of filter paper required.

	Dia.
FU08391 ⑦	4.25cm
FU08392	5.5cm
FU08393	7.0cm

RUBBER CONES. For use with Buchner Funnels

	Int Dia.	
	Large end & small end.	
CR05360 ⑧	20	x 14mm
CR05365	27	x 18mm
CR05370	33	x 24mm
CR05375	42	x 27mm



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FUNNELS, HIRSH. Porcelain. With fixed filter plate.

	Plate Dia.	Top Dia.
FU08394	18mm	50mm
FU08395	27mm	70mm

FUNNELS, DROPPING. Cylindrical. Open top, borosilicate glass with interchangeable glass stopcock.

	Capacity
FU08400 ¹	25ml
FU08405	50ml
FU08410	100ml
FU08415	250ml

FUNNELS, DROPPING. Cylindrical. To BS 2021. Borosilicate glass with interchangeable glass stopcock and interchangeable p/p. stopper.

	Capacity
FU08420 ²	50ml
FU08425	100ml
FU08430	250ml

FUNNELS SEPARATING. Spherical. To BS 2021. Borosilicate glass with interchangeable glass stopcock and polypropylene stopper.

	Capacity
FU08435 ³	50ml
FU08440	100ml
FU08445	250ml
FU08450	500ml

FUNNELS, SEPARATING. Conical. To BS 2021. Borosilicate glass with interchangeable glass stopcock and polypropylene stopper.

	Capacity
FU08460 ⁴	50ml
FU08465	100ml
FU08470	250ml
FU08475	500ml

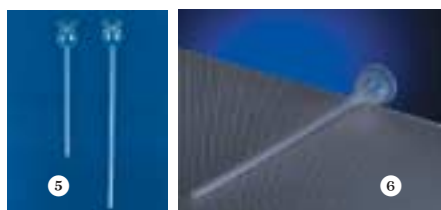


FUNNELS, THISTLE. Soda glass with straight stem.

	Stem Length
FU08485 ⁵	20cm
FU08490	30cm

FUNNEL HEAD, THISTLE. Polythene. 34mm Top Diameter, accepts 6mm tubing.

FU08495 ⁶



FURNITURE

LABORATORY STOOL. Solid beech.

	Height
FU08497 ⁷	560mm
FU08498	610mm
FU08499	685mm



GAS COLLECTION and WASHING

GAS MEASURING TUBE. Graduated 50ml x 0.1ml. Closed at one end.

GA08500 ⁸



GAS JARS. Glass with base and ground top flange.

	Ht.	Int. Dia.
GA08510 ⁹	150	50mm
GA08515	200	50mm
GA08520	250	50mm
GA08522	200	60mm
GA08525	300	60mm

GAS JAR COVERS. Ground one side.

	Diameter
GA08530 ¹⁰	65mm
GA08535	75mm
GA08536	90mm

PNEUMATIC TROUGHS. Glass Circular.

	Dia.	Ht.
GA08540 ¹¹	200	100mm
GA08545	250	130mm
GA08550	300	130mm



BOWL. Polythene, 'Washing-up' circular, with rim. 350mm dia. x 130mm ht.
GA08555 ①

BEEHIVE SHELVES. Earthenware.

Dia.
GA08560 ② 7.5cm
GA08565 10cm

DEFLAGRATING SPOON. Steel spoon and handle, cork and brass cap.
GA08570 ③



WOOD SPILLS. In bundles of 1000.

GA08575 ④

COMBUSTION SPOONS, 'Nuffield'. Stainless steel. 200mm long.

GA08585 ⑤

GAS WASHBOTTLE. 125mm overall height x 25mm diameter.

GA08590 40ml Capacity

GAS GENERATORS, Kipps. Ground-in stopcock, safety funnel and stoppered ground tubulure. 1Lt. Capacity.

GA08620

Replacements FOR GAS GENERATOR

GA08625 Thistle Funnel
GA08630 Stopcock
GA08635 Rubber rings
GA08640 Stoppers
GA08645 Upper bulb

GAS LIGHTER. Comprising of steel holder with adjustable shielded flint and striking plate. Supplied with one flint.

GA08650 ⑥ Lighter
GA08654 Spare Flints

GAS LIGHTER, PIEZO-ELECTRIC, Multispark type. No batteries required. Supplied with combined wall bracket and protector.

GA08660 ⑦

MATCHES, Safety. In boxes of approximately 40 matches.

GA08663 ⑧

GAS CYLINDER TROLLEYS. Stove enamel steel with retaining straps and tyred wheels.

For Cylinder Dia.
GA08765 180mm
GA08770 305mm



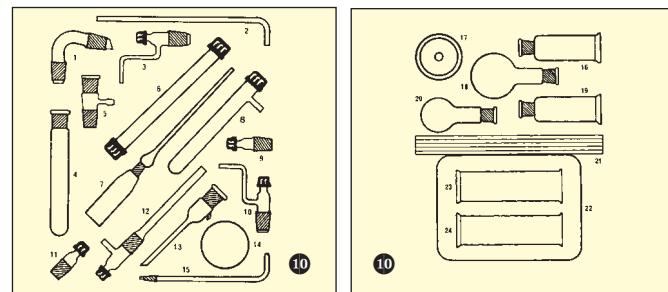
GAS PREPARATION KIT All you need for producing gases in the classroom. Consisting of five test tubes 150 x 24mm, test tube stand, rubber stoppers, thistle funnel, test tube with side arm, glass chimney shelf, delivery tube, connectors and plastic tank with lid, which can be used as a storage box when not in use.

GA08772 ⑨



GAS PREPARATION KIT, Quickfit 'IGS' An educational kit designed for the preparation of gases and also suitable for a wide variety of chemistry experiments. The kit is composed of standard Quickfit Laboratory apparatus featuring both ground glass joints and screw thread joints, together with items such as beehive shelf, gas jar, plastic trough, and glass tubing. It is packed in two cardboard boxes with integral plastic storage trays and instructions for 19 gas preparations are included with each kit.

QIGS ⑩



GAS SYRINGE. Ground glass syringe. Capacity 100ml

SY14858 ⑪

GAS WASHING BOTTLES, Dreschel. 250ml capacity. The head is fitted with 8mm dia inlet and outlet tubes with a 24/29 cone. The bottle is fitted with a 24/29 socket.

GA08776 ⑫



GAUGES

CALLIPER GAUGE, Vernier. With thumb lock, stainless steel. Range 6in x 150mm, vernier scale 1/1000in x 1/50mm, for internal and external measurements and depth gauge.

GA08800 ①

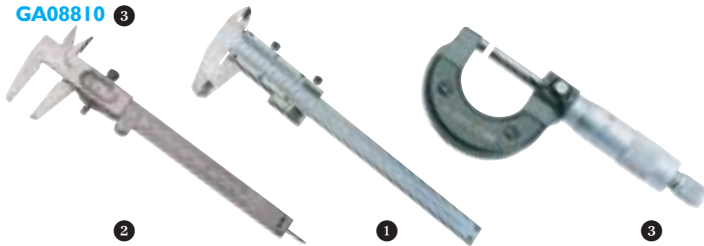
CALLIPER GAUGE, Vernier. Capacity 150mm with thumb wheel. Internal and external reading, with depth gauge.

GA08805 ②

SEE ALSO UNDER **MEASUREMENT** Page 94

MICROMETER, SCREW GAUGE. Graduated to read 0 to 25mm x 0.01mm. with ratchet and lock nut.

GA08810 ③



GAUZES

GAUZES, IRON WIRE. Plain

GA08850 ④ 125 x 125mm

GA08855 150 x 150mm

GAUZES, IRON WIRE. With ceramic centre.

GA08860 ⑤ 125 x 125mm

GA08865 150 x 150mm

GAUZES, STAINLESS STEEL. Plain

GA08868 125 x 125mm,

GA08870 150 x 150mm.



BUNSEN BURNERS

See pages 23-24

TRIPOD STANDS

See page 148

GLASS BLOWING TOOLS

GLASS CUTTING DIAMOND. Metal mount with wood handle.

GL08875 ⑥



GLASS TUBING CUTTER. Manufactured in nickel plated zinc alloy. Accepts tubing up to 30mm dia.

GL08882 ⑦

Glass tubing cutter

GL08883

Spare wheels



GLASS WRITING DIAMOND. Metal mount with wood handle.

GL08885 ⑧

GLASS WRITING DIAMOND Pocket pattern with retractable diamond point and pocket clip.

GL08890 ⑨



HEALTH

BREATH VOLUME KIT. A lung volume bag with special mouthpiece, designed to measure tidal volume and respiratory minute volume. Supplied with full instructions.

CL04285

LUNG VOLUME KIT. Designed to measure lung capacity. Comprising of 4 graduated lung volume bags, holders and mouthpieces. Supplied with full instructions

CL04286 ⑩



LUNG VOLUME BAGS. Graduated upto 6lt

CLO4287

RESPIROMETER. For measuring oxygen consumption of small organisms during respiration. Consisting of two boiling tubes 150 x 24mm, rubber bungs, 3-way stopcocks and manometer tube with lined white plastic panel.

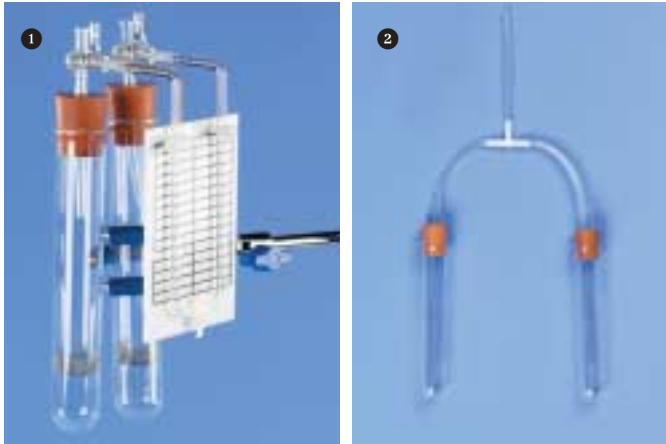
HE42500 ①

RESPIRATION APPARATUS. For testing inhaled and exhaled air. Consisting of two test tubes 150 x 24mm, two lengths of glass tubing, connected by PVC tubing with a plastic T- piece

HE42520 ②

J-TUBE, Screwfitting. Made from 1 mm bore thick walled capillary tubing fitted with brass screw and collar for measuring small volumes of gas produced by plants and animals. Length of long limb 250mm, short limb 100mm

HE42530 ③



CIGARETTE TAR DEMONSTRATION KIT, An inexpensive and effective way of showing the tar produced when a cigarette is smoked. The kit contains a holder for cigarette, a filter and holder to absorb the tar, a syringe to produce measured puffs and a side outlet for the used air. Complete with spare papers and instructions.

BK88130 ④

SPHYGMOMANOMETER, ANEROID. Scale reads up to 300mm Hg, strong cloth cuff is fastened by Velcro Strips. Supplied in a zip case.

CL04290 ⑤



BLOOD PRESSURE METER, DIGITAL AND UA702. A semi-automatic meter with a large LCD for measuring both blood pressure and pulse rate. Ranges: 20 to 280mm/Hg and 40 to 200 pulses/min. Powered by 4 x AA batteries (supplied). Complete with full instructions.

CLI8100 ⑥ **UA702 Blood Pressure Meter**

BLOOD PRESSURE METER, DIGITAL AND UA787 - AUTO INFLATION. A fully automatic meter with Fuzzy Logic which determines the ideal cuff inflation level. Easy single button operation. Stores the last 30 readings in its memory. After each measurement the UA787 simultaneously displays systolic and diastolic pressure and heart rate. Ranges: 20 to 280 mm/Hg and 40 to 200 pulse/min. Powered by 4 x AA batteries (Supplied). Complete with full instructions and case.

CLI8104 ⑦ **UA787 Blood Pressure Meter**



Blood Pressure Meters are CE and MDA Approved. Any Diagnosis of the reading for Medical Purposes should only be done by a Qualified Medical Practitioner

WRIST PULSE/BLOOD PRESSURE MONITOR. A compact blood pressure monitor with digital readout. Simply attach to your wrist, press the screen and the unit automatically inflates. Up to 14 readings may be stored for comparison. time and date of reading is also stored. Complete with batteries and storage case.

CLI8108 ⑧

PULSE BEEP. A high quality hand held digital pulse meter. Automatically locks on pulse reading within 45 seconds and holds readings on display for one minute. Audible pulse with flashing heart symbol on each beat and a clock and alarm functions are incorporated. Complete with case and batteries (3 x AA).

CL04292 ⑨



STETHOSCOPE. A simple stethoscope with Dual Head.

CL04293 ⑩

TONGUE, DEPRESSORS. Wooden.

CL04294



GIANT TEETH AND TOOTHBRUSH. A 2 x lifesized model for demonstrating dental hygiene and tooth care. Complete with giant toothbrush.

MOI1242



DENTAL MIRROR. Flat circular mirror 24mm dia on a 165mm metal handle

DI05880



DENTAL HEALTH TEACHING PACK. A set of materials to help with the teaching of dental care and health included are: Colour chart showing development, care and structure of teeth set of 10 plastic replicas of the main types of human tooth, disclosing tablets, pack of 72, to display plaque on teeth, projection slides (33) and teaching notes 'About your teeth'

BK88120

FOOD PYRAMID POSTER. A 520 x 760mm laminated poster which shows how to promote healthy living.

VII7095

FOOD BAG. Create a balanced meal using a selection of foods from five food groups. Includes a set of 12 printed PVC foods, knife and fork, food labels, teachers notes, blank menu sheet and storage case. Size 780 x 500mm

MO20235



BATHROOM SCALES. Traditional scales with easy clean platform. Size 125 x 0.5kg

BA01370

HEIGHT MEASURE. An accurate and durable height measure extending to over 2 meters. The measurement scale is graduated with both metric and imperial values. When not in use it packs away into its own base. Supplied with project card.

MEI0332



FOOT AND HAND MEASURE. An accurate measure for feet and hands of children and adults. Complete with full instructions. Size 400 x 230mm

MEI0333

SLIPPED DISC. Two lumbar vertebrae with spinal nerves, spinal cord, and two replaceable prolapsed discs between the 4th and 5th lumbar vertebrae Height: 13cm.

MOI1274



LIFTING MANIKIN A unique model which clearly illustrates the correct way of lifting heavy objects. The model shows how the spine is distorted when an object is lifted incorrectly. Supplied with background notes Size: 200 x 150 x 150mm

MOI1245



CLINICAL TEST STRIPS

TS7200

Albustix, strips for protein tests

TS7204

Clinistix, strips for glucose test

TS7206

Diastix, strips for glucose tests

TS7208

Haemastix, strips of blood tests

TS7212

Ketostix, strips for ketone test

TS7216

Labstix, strips for nitrite, blood, ketones, glucose, protein, pH tests

TS7220

Uristix, strips for protein and glucose tests



CLINICAL THERMOMETERS See Page 155

HEAT AND ENERGY

BALL AND RING. Two-piece Set. Brass ring and brass ball mounted in wooden handles. Overall length 260mm

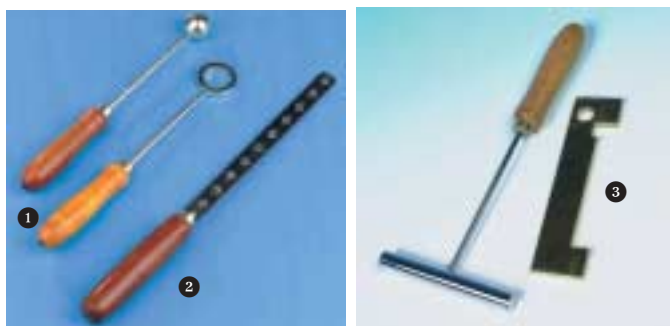
HE08895 ①

COMPOUND BAR. To demonstrate the unequal expansion of two metals by the curvature produced when the bar is heated. Comprising of two metal bars 200 x 15mm riveted together. Fitted with a wooden handle.

HE08896 ②

BAR & GAUGE. To demonstrate the expansion of material when heated. Comprising of a 'T'-Shape metal bar fitted with a wooden handle and a brass gauge to check the length and diameter of bar when cold and hot.

HE08897 ③



BAR BREAKING APPARATUS. A heavy cast iron frame with stout iron bar. One end is fitted with a nut to take up slack and the other is drilled to accept a cast iron breaking bar.

HE18700 ④ **Bar Breaking Apparatus**
HE18702 **Spare bars**

CALORIMETER BLOCKS. For experiments on specific heat capacity, cylindrical with central hole to accept immersion heater and off-set hole for thermometer. Mass of each block approx. 1kg.

HE18710 ⑤ **Aluminium alloy**
HE18712 **Brass**
HE18714 **Copper**
HE18716 **Steel**



IMMERSION HEATER. Suitable for calorimeter blocks. A 50W fully sheathed 12V 5A a.c. or d.c. heater with 4mm sockets.

HE18720 ⑥

CALORIMETERS, COPPER with parallel sides and rolled rim.

HE18722 ⑦ **75 x 50mm dia.**
HE18724 **100 x 75mm dia.**



COLLAPSING CANS. A 1Lt round can with screw cap.

HE18725 ⑧

CONDUCTIVITY APPARATUS. Consists of four metal strips (aluminium, brass, copper and iron) mounted on a wooden ring. The outer end of the strips are formed into a small cup to contain wax.

HE18730 ⑨

CONDUCTIVITY RODS. 300 x 3mm dia. In packs of 10.

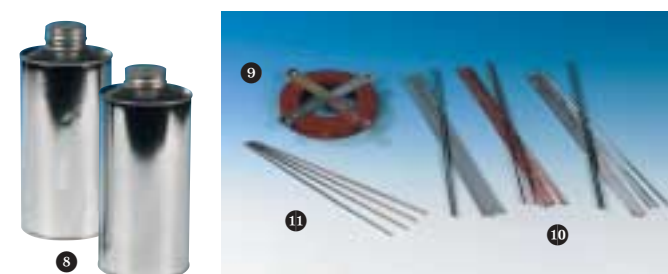
HE18732 ⑩ **Aluminium**

HE18733 **Copper**

HE18734 **Iron**

CONDUCTIVITY RODS. Set of 4 rods 250 x 3mm dia. Aluminium, brass, copper, glass and iron.

HE18735 ⑪



THERMAL CONDUCTIVITY BARS. These are safe, clean (no wax) and easy to use. The durable liquid crystal strips embedded in the bars show how a green zone of 40°C moves up the bars. The colours give a dramatic view of conduction and the marked difference in temperature gradients in the bars is also visible. By immersing the heated bars into cold water shows how conductivity applies to heat leaving the metal. The tops of the bars are designed to be touched with a finger tip to reinforce the colour observations

HE43005 ⑫

INGEN - HAUZE'S CONDUCTIVITY APPARATUS A set of 6 rods 130 x 3 mm dia (Copper, Iron, Lead, Brass, Zinc and Aluminium) mounted in corks in a tank. The rods are coated in paraffin wax and the rates of melting compared.

HE43008 ⑬



RADIANT HEAT SOURCE - 'Nicholl'. A ruggedly designed radiant heat source consisting of a quartz glass enclosed compact 300W element providing a safe unidirectional output, housed in a steel case with an illuminated on/off switch and detachable IEC mains lead
HE43010



RADIATION ABSORPTION DISC SET. For aluminum discs each with different durable anodised finish—matt black, mirror black, matt silver and mirror silver. Bonded to the reverse of each disc is a 30-650°C liquid crystal thermometer. These discs show in a clear and measurable way how absorption of heat radiation depends on surface colour and texture. The very low heat capacity gives quick results, meaning that many more experiments can be completed in each lesson. The discs can also be used to investigate rates of cooling, the effect of filters and reflectors, inverse square law and equilibrium between absorption and emission. Supplied with holder and storage box.
HE43015



CROOKES RADIOMETER. A glass bulb containing a set of 4 different coloured vanes, which rotate when exposed to light.
HE18738

HOT AIR BALLOON KIT. A working model of a hot air balloon. 1.7M high and 4.5M in circumference. Can be launched using a fan heater or a camping stove. Supplied with full instructions.
HE15739



LESLIES CUBE. 125mm side with surfaces, dull black, bright black, white and bright tin.
HE18740 ①

STEAM GENERATOR. A cylindrical copper body and conical top fitted with a finger-loop handle. It has a short neck for a bung, a rifled outlet tube and glass water gauge tube. Capacity 2Lts.
HE18745 ②



PROPERTIES OF GAS



BOURDON GAUGE, MOUNTED. Comprising of a large Bourdon gauge mounted on a wooden base, for measuring the total gaseous pressure. The bicycle valve is removable in order to connect the gauge directly to a pressure source.
HE18748

BOYLE'S LAW APPARATUS. This apparatus provides an inexpensive method of demonstrating the expansion ratio of gases and Boyle's Law. Complete with an integral Bourdon gauge 100mm dia. and an easy to read manometer scale. Overall dimensions 650(H) x 190(W) x 100(D)mm.
HE18750 ③

CHARLES LAW APPARATUS. Designed to demonstrate that the volume of a fixed mass of gas is directly proportional to the absolute temperature provided the pressure remains constant. The system comes complete with a mercury levelling tube, a Joly air thermometer and a wooden case for storage.
HE18752 ④



CONVECTION IN AIR APPARATUS. Consisting of a metal box 220 x 100 x 165mm with sliding plate glass front, two glass chimneys and a fixed candle holder beneath left hand chimney.

HE18736 ① Convection in air apparatus
HE18737 Spare Chimneys

JOLY'S BULB & GAUGE. A 60mm dia. glass bulb connected to a Bourdon gauge. By placing the bulb into either hot or cold water the expansion and contraction of the glass can be shown.

HE18753 ②



KINETIC THEORY MODEL. Visualizing random motion in gases is a difficult concept to image. This Kinetic Motion apparatus enables students to see this phenomena. In clear plexi glass quantitative demonstration. It demonstrates Kinetic Theory of Gasses, Variable Speed, Low Voltage 6V D.C., dimensions 160x130x130mm (approx.)

HE18755 ③

MANOMETER, MOUNTED. A moulded plastic manometer with adjustable scale. Height 300mm.

HE18756 ④

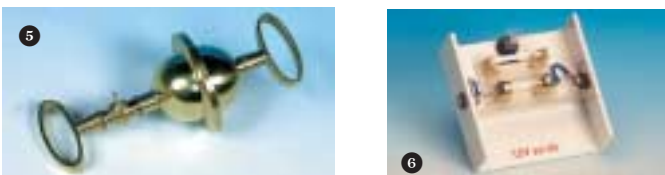


MAGDEBURG HEMISPHERES. Consisting of two metal cups 75mm dia. fitted with handles and one also with a stopcock.

HE18758 ⑤

WHITLEY BAY SMOKE CELL. For demonstrating Brownian Motion. To be used with a microscope, a clear plastic cell contains the smoke by use of a cover slip, and illumination is provided by a filament lamp which is an integral part of the unit. Requires a 12V power supply.

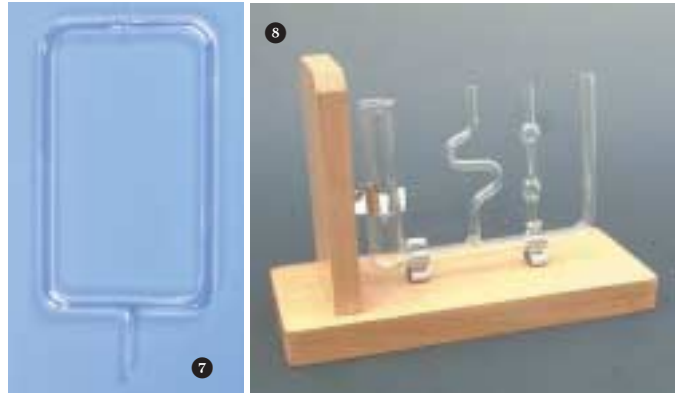
HE18760 ⑥



PROPERTIES OF LIQUIDS

CONVECTION IN WATER APPARATUS. Consisting of a rectangle of 22mm dia. glass tubing approx. 360 x 210mm.

HE18778 ⑦

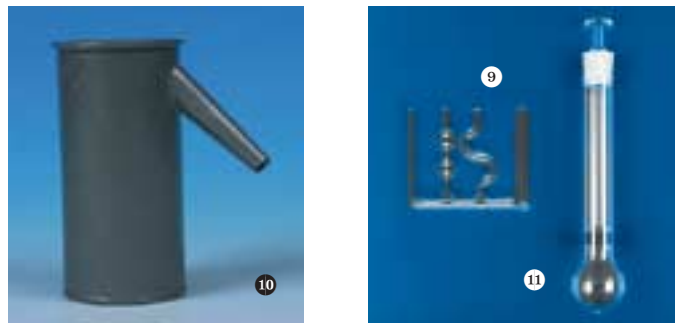


LIQUID LEVEL APPARATUS. To show that the level of liquid in connected vessels is constant irrespective of the vessel size or shape. Comprising of four different glass vessels connected by a common base tube. Mounted on a base 230x100mm. Height 160mm.

HE18780 ⑧ Liquid level apparatus
HE18781 ⑨ Glassware only

DISPLACEMENT VESSEL (EUREKA). Tin plate with overflow. Size: 100x50mm. dia.

HE18782 ⑩



EQUALITY OF PRESSURE. Consisting of a glass cylinder 200x25mm dia. with a spherical bulb 50mm dia. and a plunger. The bulb has small holes around its circumference. When the plunger is depressed water is ejected from all the holes with equal force.

HE18784 ⑪



FORCE PUMP. An unmounted glass model to show the principles of a force pump.

HE18786 ⑫

LIFT PUMP. An unmounted glass model to show the principles of a lift pump.

HE18788 ⑬

BERNOULLI TUBE. A 500mm long glass tube with a 10mm bore constricted to 8mm in its centre and short side tubes are provided for the attachment of glass manometer tubes (supplied). With a constant flow of water through the tube, the variation of pressure in the sections may be determined.

HE18790 ①



FLUID PRESSURE APPARATUS (Spouting Cylinder). for demonstrating how pressure increases with depth. Consisting of a metal cylinder 400 x 70mm dia with three identical sized orifices at different levels down one side.

HE18792 ②

ENERGY CONVERSION

DEMONSTRATION DYNAMO. A basic d.c. electric motor having a 2 pole armature wound with enamelled Copper wire and a permanent magnetic field supplied by a removable bar magnet. Mounted on a 230 x 90mm base plate which also carries a 120mm dia hand driven pulley coupled to the smaller dynamo pulley by a rubber belt to give a step-up ratio. Electrical output is via a pair of 4mm sockets and a light emitting diode is provided as a simple output indicator. Can also be used as a motor on a 6-8 V d.c. supply

EL18658 ③



HAND OPERATED DYNAMO SET. Students can use their own energy to generate d.c. electricity. The unit houses a high quality motor/generator driven through gearing by the hand crank, producing up to approx. 6V d.c. Polarity is determined by the direction in which the handle is turned. The set comprises of

- Generator unit (size 140 x 114 x 39mm inc.. clamp) in clear plastic housing
- Metal bench clamp
- Plug in lamp (with standard 6V MES bulb)
- Plug in lead set 50cm long terminating in fork connectors

Using the leads supplied the generator can be used to power other demonstrational equipment or connected to a d.c. Voltmeter etc. to show how output increases as the crank is turned faster and more effort is required as load increases

EL18660 ④



DYNAMO TORCH. Squeeze the lever in and out to create light. The see through design shows the working components

EL18662 ⑤

STEAM ENGINE SP2. A powerful compact engine capable of driving workshop models. Uses solid fuel tablets.

HE08900 ⑥

STEAM ENGINE SP4. A versatile unit capable of driving larger models. Uses solid fuel tablets.

HE08902 ⑦

SOLID FUEL TABLETS. In packs of 20.

HE08904 ⑧

WORKSHOP UNIT. For use with static steam engines. Consisting of a grinding wheel, polishing mop, steam hammer, power press and line shaft.

HE08906 ⑨



SOLAR CELLS. Fitted with threaded stud terminals. Output 0.45V. May be fitted together for increased power.

	Max. Output	Size L x W x H
HE43100 ①	200mA	53 x 36 x 7.5mm
HE43105	400mA	75 x 45 x 7.5mm
HE43110	800mA	95 x 65 x 7.5mm
HE43115	1000mA	95 x 65 x 7.5mm

SOLAR MOTOR. 1.5 to 6.0V (1800rpm at 1.5V). Axle dia. 2mm
HE43150 ②



SOLAR EDUCATIONAL KIT Model 828. An ideal introduction to solar power containing a 400mA solar module, low-inertia DC motor; connecting lead, fan impeller and selection of turntable discs. Supplied complete with booklet explaining the principles and applications of solar energy.
HE43180 ③

SOLAR EDUCATIONAL KIT Model 689. A more advanced kit comprising of 8 solar modules, low-inertia motor; impeller, connecting lead, copper links and housings and brackets to enable the construction of various solar powered projects. Supplied complete with a comprehensive booklet covering the principles of solar power, together with connection diagrams and output calculation formulae.
HE43190 ④



SOLAR CELL MODULE. A selenium photo-voltaic cell mounted on metal stand with 2 x 4mm sockets. Demonstrates the conversion of light energy to electrical energy.
HE43200 ⑤

MOTOR MODULE. This is an efficient, small electric motor mounted on a base approx 100 x 63mm with 4 mm sockets. Designed to be used in conjunction with the solar cell module. Demonstrates the conversion of light energy to electrical energy and then to mechanical energy
HE43205 ⑥



LAMP MODULE. This unit is designed for use with the solar cell and motor unit and comprises a 12V 24W bulb and socket mounted on a base 100 x 63mm with a pair of 4mm sockets
HE43210

PROPELLER, push - fit onto 2mm axle.
DE057550 3 blade 125mm diameter
DE057551 2 blade 150mm diameter



WATER ROCKET KIT. (Rokit).

The kit makes use of an empty 1 or 1.5lt lemonade or Cola plastic bottle. The special cap, nozzle and fins supplied are attached to the bottle. An air tube and adaptor are supplied to connect the bottle to a cycle pump. The bottle is part filled with water and air pumped into the bottle. The pump connector on the bottle releases at a set pressure and the rocket is then launched. The rocket will reach a height of approximately 20M. The bottle and cycle pump are not supplied, all spares available. Complete with full instructions.

RO12950 ⑧ Rocket Kit
RO12951 Experimental Booklet (18 pages)

HYMAN FIRE PISTON.

This apparatus vividly demonstrates the rise in temperature that occurs when a fixed mass of air in a transparent cylinder is compressed by a hand operated piston. A piece of tinder, which is provided, ignites in transparent cylinder: much as a diesel engine obtains its ignition. The cylinder and piston can also be used to demonstrate the effect of decompression, being the immediate lowering of temperature and the consequent condensation of water vapour inside the cylinder. The cloud so formed can be easily seen.

HE43250 ⑨ Hyman Fire Piston
HE43252 Spare Cylinder
HE43254 Tinder
HE43256 Lubricant



HEATING MANTLES

HEATING MANTLES. 'Electrothermal' for round bottom flasks in polypropylene housing without rim, with a dished heater cartridge and an integral boss to accept retort rod (not supplied). These mantles are controlled by a built in energy regulator and are earth screened. Max. temperature of element 450°C. For 220/240V.

	Capacity	Rating
HE08920 ①	100ml	60W
HE08925	250ml	150W
HE08930	500ml	200W
HE08935	1 Lt.	300W

HEATING MANTLES 'Bibby'. A range of controllable heating mantles for round bottomed flasks from 50 to 1000ml. The plastic outer casing is lightweight easy to clean and fire resistant. Efficient insulation inside the mantles ensures low outer case temperature. Maximum temperature 450°C. For 220/240V.

	Capacity	Rating
HE08940 ②	50ml	70W
HE08942	100ml	105W
HE08944	250ml	155W
HE08946	500ml	240W
HE08948	1000ml	360W



CAN'T FIND IT?

PLEASE CALL
01270 250459

**we can supply most chemicals
and scientific equipment**

HORTICULTURE

GARDEN TOOLS

BORDER FORK. 23 x 14cm head with four prongs. 76cm steel cored, plastic coated shaft. with D-shaped handle.

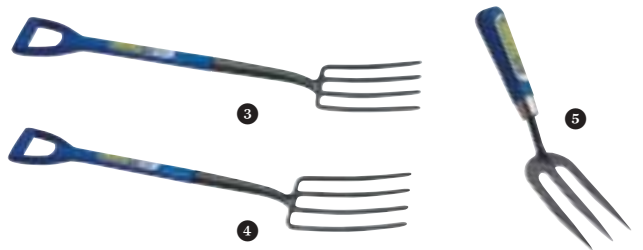
HO09000 ③

DIGGING FORK. 28 x 18cm head with four prongs. 71cm steel cored, plastic coated shaft with D-shaped handle.

HO09005 ④

WEED FORK. Three prongs with 13cm handle.

HO09010 ⑤



DRAW HOE. 15cm head on 1.3M alloy handle.

HO09020 ⑥

DUTCH HOE. 13cm triangular head on 1.3M alloy handle.

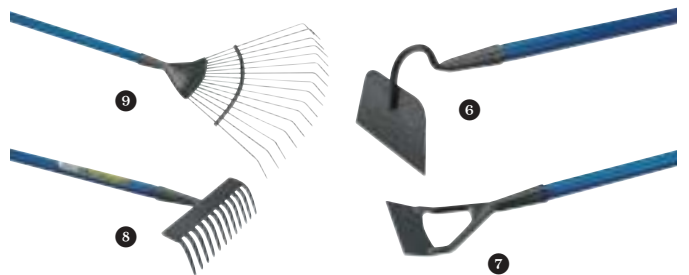
HO09025 ⑦

RAKE. 280x85mm pressed steel head containing twelve teeth with 1.3M alloy handle.

HO09030 ⑧

LAWN RAKE. 16 flexible spring steel tines with 1.2M alloy handle.

HO09035 ⑨



HAND SHEARS. 19cm blades with 25cm handles.

HO09040 ⑩

SECATEURS. Standard By Pass length 175mm with safety clip.

HO09050 ⑪



BORDER SPADE. 23cm x 14cm blade, 70cm steel cored, plastic coated shaft with D-shaped handle.

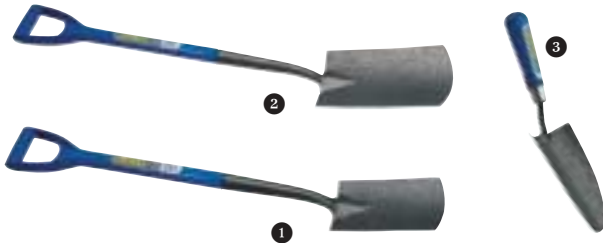
HO09055 ①

DIGGING SPADE. 28 x 18cm blade, 70cm steel cored, plastic coated shaft with D-shaped handle.

HO09060 ②

TROWEL. Pressed steel blade on 13cm handle.

HO09065 ③



GARDEN ACCESSORIES

WATERING CAN. Polythene (indoor) 1Lt. capacity.

HO09075

WATERING CAN. Polythene 9Lt. capacity complete with fine and wide bore roses.

HO09080

HAND SPRAYER, 'Polyspray' 2 Trigger operated with fine mist nozzle 1.1Lt. capacity.

HO09085 ④

GARDEN HOSE. 30M PVC reinforced hose, kink resistant, 12.5mm dia.

HO09095 ⑤



UNIVERSAL TAP CONNECTOR. Rubber collar and male hose connector.

HO09100 ⑥

HOSE CONNECTOR. For easy connection to tap connector hose gun and other accessories.

HO09105 ⑦

HOSE GUN. All plastic gun with adjustable spray nozzle.

HO09110 ⑧



SPRINKLER. Rotating arm type.

HO09120 ⑨

RIDDLE. Steel mesh.

HO09130



GARDENING GLOVES. Cotton and chrome leather palm.

HO09135 Ladies

HO09140 ⑩ Gents

SEED TRAYS. Plastic with drainage holes. Size: 350 x 210 x 50mm.

HO09145 ⑪

GRAVEL TRAYS. Plastic without holes. Size: 350x210x50mm.

HO09150



PROPAGATOR. Clear plastic. Size: 350 x 210 x 210mm complete with seed tray.

HO09155 ⑫

ELECTRIC SEED PROPAGATOR. Clear plastic with seed tray and electrically heated. Size: 350 x 210 x 210mm.

HO09160

FLOWER POTS. Polypropylene.

	Dia.
HO09165 ⑬	75mm
HO09170	100mm
HO09175	125mm
HO09180	150mm
HO09185	175mm
HO09190	200mm

GRO-BAG. Prepacked peat-based compost ready for immediate use. Ideal for tomato, cucumber and similar plants.

HO09215

COMPOSTS.

HO09220	John Innes Seed No. 1
HO09225	John Innes Potting No. 2
HO09237 ⑭	Levington Multipurpose
HO09240	Humax Peat
HO09245	Irish Moss
HO09249	Vermiculite

FERTILIZER.

HO09250	Growmore
HO09255	Lime, Garden
HO09260	Jeyes Fluid



HOTPLATES

HOTPLATE. 'Stuart' SBI160. A general purpose hotplate with a cast aluminium body and a robust aluminium/silicon alloy top plate 160 x 160mm. Fitted with a HOT warning light which will flash whenever the plate temperature is over 70°C. Max. temp. 325°C. Power rating 750W. Size 190 x 300 x 110mm. For 220/240V.

HO09304



HOTPLATE. 'Stuart' CBI160. An economical hotplate with a cast aluminium body and an easy to clean glass ceramic top 160 x 160mm. Fitted with a HOT warning light which will flash whenever the plate temperature is over 70°C. Max. temp. 450°C. Heated area 120 x 120mm. Power rating 500W. Size 190 x 300 x 110mm. For 220/240V.

HO09306



HOTPLATE, (BOILING RING). Compact, portable, solid plate design which is sealed against spillages with a durable easy to clean enamel finish. Variable heat control from simmer to boil. For 240V.

HO09308 Single ring 19cm dia. Rating 1500W

HO09309 Double ring 19 x 14.5cm dia. Rating 2500W



HYDROMETERS



HYDROMETER. Specific Gravity. Universal Range. 37cm x 0.010sp.gr.

HY09400 0.700 to 2000

HYDROMETER. Specific Gravity 200°- Length 29cm x 0.002sp.gr.

Range

HY09405 0.800 to 1.000

HY09410 1.000 to 1.200

HY09415 1.200 to 1.400

HY09420 1.400 to 1.600

HY09425 1.600 to 1.800

HY09430 1.800 to 2.000

HYDROMETER. Specific Gravity. Extra wide range. Length 25cm x 0.005sp.gr.

Range

HY09435 0.700 to 1.000

HY09440 1.000 to 1.500

HY09445 1.500 to 2.000

HYDROMETER TRIAL JARS. Glass with spout.

	Ht.	Dia
HY09450	200	50mm
HY09455	300	50mm
HY09460	380	63mm

HYGROMETERS

HYGROMETER, DIAL TYPE. With scale 20 to 100% R.H. and thermometer -30°C to 60°C and 30°F to 130°F for dry bulb temperature. In plastic case 100mm Diameter.

HY09500 ①

HYGROMETER, WET & DRY, 'Masons'. With wet and dry bulb thermometers -5° to 50° C and 20° to 120°F divided in 1°. In plastic case with polythene reservoir and spare wicks.

HY09505 ② Hygrometer

HY09506 Spare wicks



①



②

HYGROMETER, WHIRLING to BS 2842. With two thermometers having lens front, scale length of 100mm and range of -5° to 50°C, in plastic frame with handle and water reservoir. Complete with simple slide rule.

HY09510 Hygrometer

HY09511 Spare thermometer

HY09506 Spare wicks





HYGROMETER, DIGITAL. A portable min/max combined digital thermometer and relative humidity meter with a temperature range of -50 to +70°C and humidity range of 20 to 99%RH. Readings are displayed on two large LCD displays and the min/max memory is ideal for period monitoring. Housed in a hi-grade ABS plastic case which can be wall mounted or free-standing. Powered by 2 x 1.5V AAA batteries (supplied). Size: 100 x 75 x 20mm.

HY09512

INDICATOR PAPERS See Page 214

INCUBATORS

INCUBATORS. A range of incubators, available with either a plain metal door or a clear toughened glass door. The interior is of mild steel with aluminium cladding, with fixed shelf runners and two removable chrome plated steel wire shelves. The thermostat is direct reading and fitted with a dial locking device. Temperature ranges:- Plain door: Ambient +5°C to 100°C. Perspex door: Ambient +5°C to 60°C. Fluctuation $\pm 0.25^\circ\text{C}$ at 38°C. For use on 220/240V.

INCUBATOR, 20LT, with 2 shelf positions. Capacity 20Lt. Rating: 350W. Int. dimensions: 275 x 275 x 275mm (H x W x D).

IN09545 Incubator with plain door

IN09546 Incubator with clear door

INCUBATOR, 30LT, with 3 shelf positions. Capacity 30Lt. Rating: 500W. Int. dimensions: 305 x 315 x 315mm (H x W x D).

IN09550 Incubator with plain door

IN09555 Incubator with clear door

INCUBATOR, 40LT, with 3 shelf positions. Capacity 40Lt. Rating: 500W. Int. dimensions: 405 x 315 x 315mm (H x W x D).

IN09557 Incubator with plain door

IN09558 Incubator with clear door



INCUBATOR, 50LT, with 3 shelf positions. Capacity 50Lt. Rating: 500W. Int. dimensions 325 x 490 x 315mm (H x W x D).

IN09561 Incubator with plain door

IN09562 Incubator with clear door

INCUBATOR, 75LT, with 3 shelf positions. Capacity 75Lt. Rating 750W. Int. dimensions: 330 x 490 x 460mm (H x W x D).

IN09564 Incubator with plain door

IN09565 Incubator with clear door

INCUBATOR/STERILISER A range of incubator/sterilisers which are suitable for microbiology, tissue culture, drying and sterilising. The interior is of mild steel with aluminium cladding, with fixed shelf runners and two removable chrome plated steel wire shelves. The thermostat is direct reading and fitted with a dial locking device. Temperature range: Ambient +5°C to 220°C. Fluctuation: $\pm 0.75^\circ\text{C}$ at 220° or $\pm 0.25^\circ\text{C}$ at 38°C. For use on 220/240V.



INCUBATOR/STERILISER, 20LT, with 2 shelf positions. Capacity: 20Lt. Rating: 350/500W. Int. dimensions: 275 x 275 x 275mm (H x W x D).

IN09572

INCUBATOR/STERILISER, 30LT, with 2 shelf positions. Capacity 30Lt. Rating: 350/750W. Int. dimensions: 305 x 315 x 315mm (H x W x D).

IN09573

INCUBATOR/STERILISER, 40LT, with 3 shelf positions. Capacity 40Lt. Rating: 350/750W. Int. dimensions: 405 x 315 x 315mm (H x W x D).

IN09574

INCUBATOR/STERILISER, 50LT, with 3 shelf positions. Capacity 50Lt. Rating: 500/1000W. Int. dimensions: 325 x 490 x 315mm (H x W x D).

IN09575

INCUBATOR/STERILISER, 75LT, with 3 shelf positions. Capacity 75Lt. Rating: 500/1000W. Int. dimensions: 330 x 490 x 460mm (H x W x D)

IN09576

KETTLES

KETTLE, Electric. An automatic fast boiling jug kettle, with automatic switch off when boiling and safety boil-dry cut out. Capacity: 1.7Lts.
KE09604



LABELLING

LABELS, BLANK. Peelable, self-adhesive, white. In handy dispensers of one thousand labels, except LA09730 which are in 250's.

LA09700	1	19 x 12mm
LA09705		19 x 19mm
LA09711		24 x 19mm
LA09715		32 x 24mm
LA09720		40 x 19mm
LA09725		50 x 25mm
LA09730		89 x 36mm



LABELS, HAZARD WARNING. Self-adhesive labels 20 x 20mm, printed black on orange background. In packs of 100.

LA09735	2	Corrosive
LA09736		Highly Flammable
LA09737		Harmful
LA09738		Irritant
LA09739		Toxic
LA09740		Oxidising Agent
LA09741		Danger to Environment

LABELS, HAZARD WARNING. In sheets of 24 self-adhesive labels, with painted black symbols and wording on an orange background. Each sheet contains 8 corrosive, 8 flammable, 2 toxic, 2 harmful, 2 oxidising, 1 explosive and 1 radio active hazard warning label.

LA09745 3

HAZARD WARNING TAPE. Orange/Yellow self-adhesive vinyl tape. Supplied in a continuous roll. 66M long x 25mm wide. Text and symbols in black.

LA09750	4	Oxidising Agent.
LA09755		Corrosive
LA09760		Explosive
LA09765		Harmful
LA09770		Irritant
LA09775		Toxic
LA09780		Highly flammable
LA09785		Bio Hazard
LA09786		Caution Radioactive Material
LA09787		Poison (on white background)



TRANSPARENT CELLULOSE TAPE. In rolls 66M x 25mm wide.
LA09800

MASKING TAPE in 50M rolls.

LA09850	5	19mm wide
LA09852		25mm wide

PENCILS & MARKERS

PENCILS 'Chinagraph'. For writing on glass and other polished surfaces.

	Colour	
LA09860	6	Black
LA09865		Blue
LA09875		Red
LA09880		Yellow

INK MARKERS. With strong acrylic nib and anti-push back feature, for permanently writing on all types of surfaces.

	Colour	
LA09900	7	Black
LA09905		Blue
LA09915		Red



LAMPS

LAMP, ADJUSTABLE. Bench type, white enamel finish, counterpoised with 900mm arm for use with 60W BC standard bulb.

LA09950 ①

LAMP, ECONOMY BENCH TYPE. Aluminium lamp house on a 36cm. flexible stem attached to a 13cm dia. base with mains on/off switch. Accepts 60W BC lamp bulb (not supplied).

LA09952 ② **Economy Bench Lamp**
EL06670 **Spare 60W 240V BC Lamp**

LAMP, BENCH TYPE. Comprising of an aluminium lamp house on flexible stem 51cm long attached to a heavy base with in-line mains on/off switch. Accepts 60W BC standard lamp bulb. (not supplied). Complete with 13A plug.

LA09955 ③ **Bench Lamp**
EL06670 **Spare 60W 240V BC Lamp**



TORCH, Black Rubber. 2.4V Bulb. Waterproof. Takes 2 x HP2 Batteries (not included).

LA09958 ④

CLEAR TORCH, Transparent torch with batteries. Slide the switch and see the connection being made.

LA09961 ⑤

DYNAMO TORCH, Squeeze the lever in and out to create light. The see-through design shows the working components.

EL18662 ⑥



LAMP, INFRA RED. A 250W tungston filament bulb, internally silvered. E.S fitting. For 240V

LA09966 ⑦ **Infra red Bulb**
LA09966 **E.S Ceramic Bulb holder, cord grip**

LAMP, ULTRAVIOLET. A hand held, battery operated ultraviolet lamp. Size: 165x35x41mm. Requires 4xAA batteries.

LA09968 ⑧

LIGHT METERS

LIGHT METER. A simple analogue light meter ideal for demonstrating and measuring variations in light intensity. Lux Range 0 to 3000 Lux. Accuracy $\pm 15\%$. Analogue with illustrated and numeric scale. Size 68 x 77 x 23mm. Self powered, requiring no batteries or external power supply.

LI09970 ⑨



LIGHT METER, Digital. A compact digital lux meter with data hold switch and output terminals for connection to a data recorder. Range 0 to 20,000 Lux in 3 ranges. Powered by 1 x 9V PP3 battery. Size: 119 x 64 x 26mm (meter), 125 x 66 x 36mm (sensor).

LI09973 ⑩

LUBRICANTS

SILICONE GREASES. Resistant to most chemicals and are stable from - 40°C to 200°C. In 50g tubes.

LU10015 ⑪ **Normal Grade for stopcocks**
LU10020 ⑫ **High Vacuum Grease**

PETROLEUM JELLY B.P. (Soft White)
LU10025

WD 40 SPRAY. A lubricant, penetrator, anti-moisture agent and cleaner in 200ml Aerosol can.

LU10031 ⑬

OIL '3 in 1'. A light oil containing a corrosion inhibitor. 100ml can with flexible spout.

LU10035 ⑭



MAGNETISM

MAGNETS, BAR. Chrome steel. Rectangular 6mm thick. In pairs with keepers.

MAI0105	1	75 x 13mm
MAI0110		100 x 15mm
MAI0115		150 x 19mm

MAGNETS, BAR. Ceramic. Suitable for Westminster electromagnetic kit.

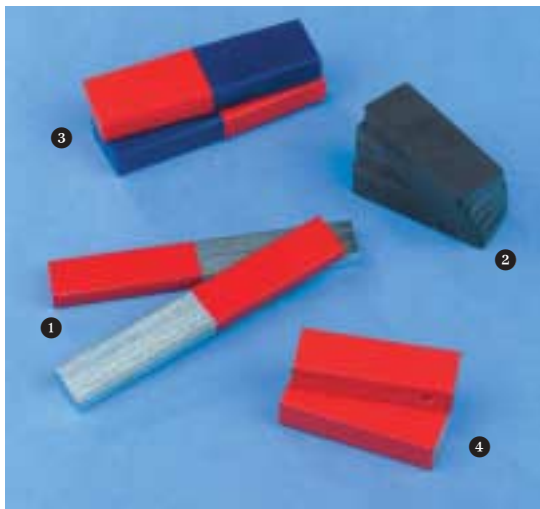
MAI0120	2	50 x 19 x 5mm
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MAGNETS, BAR. Ceramic. Plastic coated.

MAI0125	3	80 x 22 x 10mm
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MAGNETS, BAR. 'Alnico'. Size 16 x 10mm. In pairs with keepers.

MAI0130	4	Length 50mm
MAI0135		Length 75mm



MAGNETS, BUTTON, 'Alnico'.

MAI0137	5	12mm dia.
MAI0139		24mm dia.

MAGNETS, CYLINDRICAL. 'Eclipse'. Alcomax 25mm long x 8mm diameter. Supplied in pairs.

MAI0140

MAGNETS, CYLINDRICAL. Chrome Steel 100 x 9.5mm dia.

MAI0143

MAGNETS, NEODYMIUM. Powerful disc magnets with the poles on the flat surfaces.

MA30500	6	10mm dia. x 8mm thick
MA30502		20mm dia. x 10mm thick

MAGNETS, HORSESHOE, 'Alnico' 25mm long, 8mm thick and 22mm across the poles. Supplied with keeper.

MAI0145



BLOCK MAGNET CERAMIC. A powerful ceramic block magnet with mild steel pole pieces and keeper. Overall size: 112 x 75 x 40mm.

MAI0146

MAJOR MAGNET 'Alcomax'. One of the most powerful permanent magnets ever produced. Overall size: 110 x 103 x 50mm. Distance between poles 27mm.

MAI0147



ELECTROMAGNET. To demonstrate the relationship between magnetism and electricity. Soft iron U-shaped core, 110mm high x 9mm dia. and keeper with hook.

MAI0148



MAGNET, PLASTIC HORSESHOE. A powerful horseshoe magnet in a plastic case.

MAI0149

MA30506

Large 110 x 110 x 30mm

Giant 210 x 175 x 25mm

MAGNETS, Horseshoe. Chrome steel. Dimension is overall length.

MAI0150

MAI0155

MAI0156

MAI0157

75mm

100mm

125mm

150mm

HORSESHOE MAGNET SET. One each of 75, 100 x 125mm horseshoe magnets in plastic wallet.

MAI0159



COLOURED FLOATING MAGNETS. Set of 5, plastic coated coloured ring magnets 30mm dia. with free standing rod and presentation box.

MA10166 ①

MAGNETS, SUPER PACK. An assortment of 300 ceramic magnets, ferrite discs, rings, and squares.

MA10167 ②



MAGNET KIT. A basic range of magnets and accessories supplied in a compartmented storage case. Consisting of: Horseshoe magnet 100mm high, 1 Pair Plastic Cased Bar magnets 80mm, 4 pieces magnetic rubber sheet 50 x 50mm, 5 Ferrite rings 24mm dia, 5 Ferrite squares 19 x 19 x 5mm, 1 Each Alnico button magnets 12, 19, 24mm dia, 2 Plotting compasses clear both sides 19mm dia, 2 Plotting compasses 16mm dia, 1 Alnico cast Horseshoe 25mm, 2 Chrome rods 100mm, Lodestone walnut size.

MA10168 ③



SUSPENSION MAGNET. A cylindrical chrome magnet 32x6mm dia. with a central hole for accommodating suspension thread.

MA10170 ④

MAGNETIC NEEDLE STAND. 100mm high, complete with 75mm needle and teachers' notes.

MA10176 ⑤

MAGNETIC TAPE. A 10M roll of self adhesive rubber tape 8mmx0.8mm. Can easily be cut with scissors.

MA10177 ⑥



MAGNETIC RUBBER SHEET. Set of 4 different coloured strips 300 x 50mm.

MA10178 ⑦

MAGNETIC RUBBER STRIP. Pack of 4 pieces 305 x 10 x 4mm.

MA10180

MAGNETIC MARBLES. Set of 20 plastic coated coloured round magnets 15mm dia.

MA10182 ⑧

MAGNETIC DISCS. Pack of 100 transparent coloured discs with metal rim

MA10183 ⑨

MAGNETIC WANDS. Set of 6 plastic coated coloured wands. Magnet size: 65 x 26 x 14mm. Overall length 190mm.

MA10184 ⑩



MAGNETIC FIELD TUBE. A double wall tube with iron filings encased between the two layers to show a 3-dimensional view of the magnetic field around the magnet.

MA10185 ⑪

MAGNETIC POLE PATTERN. Iron filings in a clear liquid for demonstrating magnetic fields. When magnets are placed near the box, the shape of the magnetic field is clearly visible. Size: 280 x 180 x 9mm. Supplied complete with magnets and instruction book.

MA10187 ⑫



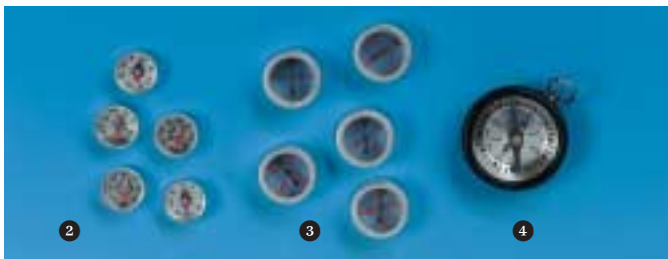


MAGNAPROBE, MARK II. A free moving magnet mounted in a gimble to show the true shape of magnetic fields far better than iron filings or plotting compasses.
MA10188 ①

COMPASS, PLOTTING. 16mm dia. Dial marked with principle points of the compass.
CO04600 ②

COMPASS, PLOTTING. 19mm dia. With two clear glass faces.
CO04605 ③

COMPASS, POCKET. 40mm dia. Dial marked with points of the compass every 10 degrees.
CO04607 ④



EDDYCURRENT KIT. For demonstrating Lenz's Law. Containing a copper tube, two identical test plugs - one steel and one neodymium magnet. Complete with instructions.
MA10190 ⑤

IRON FILINGS IN BUBBLE. Suitable for many simple magnetic field plotting experiments. Size: 80 x 12mm.
MA10192 ⑥



IRON FILINGS in sprinkler pot. 250g Iron filings supplied in pepper drum.
MA10193 ⑦

IRON ROD, SOFT. 155 x 10 mm dia., Non-Magnetic.
MA10194 ⑧

LODESTONE, Natural Ore. Supplied in pieces the size of a walnut.
MA10197 ⑨



MAGNETISING and DEMAGNETISING COIL. For magnetising and demagnetising ordinary magnets, iron bars etc. Consisting of a 250mm long solenoid wound with insulated copper wire mounted on a base with switch and 4mm terminals. Operating voltage 12V a.c. or d.c. at 6A. Magnetising by a.c. or d.c. Demagnetising by a.c.
MA10198 ⑩



CHEMICAL WASTE DISPOSAL

We now offer a complete service for classifying, packing, labeling and safe legal transportation in accordance with CDG-CPL Regulations by our fully qualified DGSA (Dangerous Safety Advisor)

Phone now for FREE Quotation

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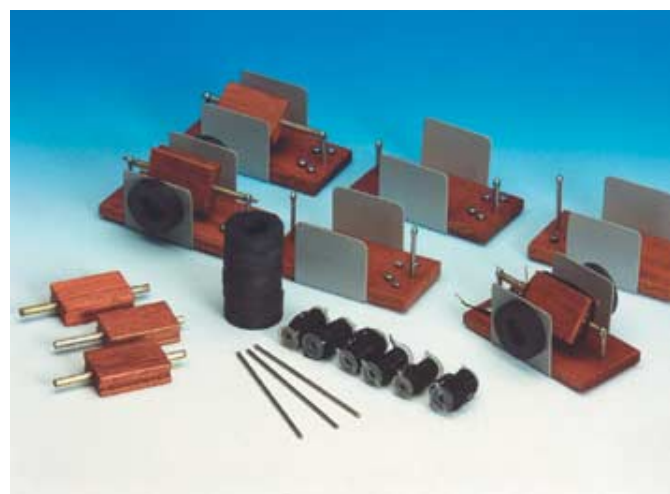
WESTMINSTER ELECTROMAGNETIC KIT. A comprehensive kit for teaching up to 8 students the various aspects of electromagnetism. Containing: Alloy magnets, ceramic magnets, steel magnets, yokes, plotting compasses, hardboard formers, iron filings, double C-cores, clips, rings and split rings, support bases, armatures, axle rods, split pins, rivets, rubber tubing, formers, reels, cellulose tape, copper wire, pasteboard, postcards, cotton, resistors, bulbs, lampholders, clamps, blocks and full instructions.

MA18792



WESTMINSTER MOTOR KIT. Providing a clear and motivational method of understanding the principal of electric motors. Containing: 6 wooden bases, 17 magnet holders, 12 split pins, 6 shafts, 6 armatures, 6 reels of plastic coated wire, 1 reel of plastic tubing and full instructions.

MA18794



WESTMINSTER POWER SUPPLY. Ideal for electromagnetic investigations. The unit will deliver up to 12A a.c. or d.c. through colour coded terminal posts.

MA18796



MAGNIFIERS

MAGNIFIERS, FOLDING, 'Gowlands'. With two plano-convex glass lenses in folding plastic moulded body. Dia. 17mm.

	Magnification
MA10200 ①	x 5
MA10210	x 10

MAGNIFIERS, FOLDING TYPE, in plastic case.

MA10211	Single lens 25mm dia.
MA10212 ②	Single lens 38mm dia.
MA10214 ③	Double lens 38mm dia.
MA10217 ④	Triple lens 38mm dia.

MAGNIFIERS, READING LENSES. Metal mount with plastic handles.

	Dia.
MA10225 ⑤	60mm
MA10230	75mm
MA10235	90mm



MAGNIFIERS, HAND. A one-piece plastic magnifier with handle.

	Lens Dia.	Magnification
MA10237 ⑥	50mm	x 3.4
MA10238	75mm	x 2.5
MA10239	100mm	x 2.3

MAGNIFIERS, WATCHMAKERS EYEGLASS Dia. 2cm.

MA10240 ⑦	Magnification x 3.5
-----------	---------------------



MAGNIFIERS. A range of optical quality acrylic hand lenses.

MA10252	35mm dia x5 magnification
MA10254	50mm dia x4 magnification main lens with a x6 secondary lens in handle
MA10256	63mm dia. x3.5 magnification



MAGNIFIER, ILLUMINATED. Dual lens magnification approx x 3 and x 10. Powered by 2 x HP7 batteries (not supplied)

MAI0262 ①

MICRO-MAGNIFIER, An illuminated precision pocket microscope with approx x 30 magnification, built in illuminator and condenser lens. Powered by two HP7 batteries (not supplied). Complete with case and instructions.

MAI0264 ②



NATURALIST MICROSCOPE. Compact and economical apparatus to examine specimens by transmitted and reflective light. The robust plastic microscope is x60 magnification with 1.5mm diameter field of view. It slots ingeniously into the box lid which provides a sturdy base and makes the equipment easily transportable for on-the-spot study. The box also contains forceps, a probe, 2 specimen boxes and 2 plain glass slides. Plastic box measures 235x130x42mm.

MII0522



NATURE VIEWERS - see ENVIRONMENTAL SCIENCE Page 63-64

MASSES

MASSES. Iron, hexagonal with ring.

MAI8810	50g mass
MAI8812	100g mass
MAI8814	200g mass
MAI8816	500g mass
MAI8818	1000g mass
MAI8820	2000g mass



MASSES - SLOTTED

SETS OF MASSES, Slotted. Brass. Circular with hole and slot.

MAI8830 1 x 50g Brass hanger & 6 brass weights
5, 10, 20, 50, 100 & 200g.

MAI8832 1 x 10g Brass hanger & 9 x 10g masses

MAI8834 1 x 100g Brass hanger & 9 x 100g masses



SEPARATE SLOTTED MASSES AND HANGERS. Brass.

MAI8840	10g hanger
MAI8842	20g hanger
MAI8844	50g hanger
MAI8846	100g hanger
MAI8848	5g mass
MAI8850	10g mass
MAI8852	20g mass
MAI8854	50g mass
MAI8856	100g mass

SLOTTED MASSES AND HANGERS - IRON. Each hanger will hold up to 17 masses of 1kg.

MAI8880	1kg hanger
MAI8882	0.5kg mass
MAI8884	1kg mass
MAI8886	2kg mass
MAI8888	5kg mass

MATERIALS

CUBES, METAL. Set of 7. Comprising of Aluminium, Brass, Copper, Iron, Lead, Zinc and Tin.

MAI8950	10mm sides
MAI8952	20mm sides



CUBES, METAL. Length of side 20mm.

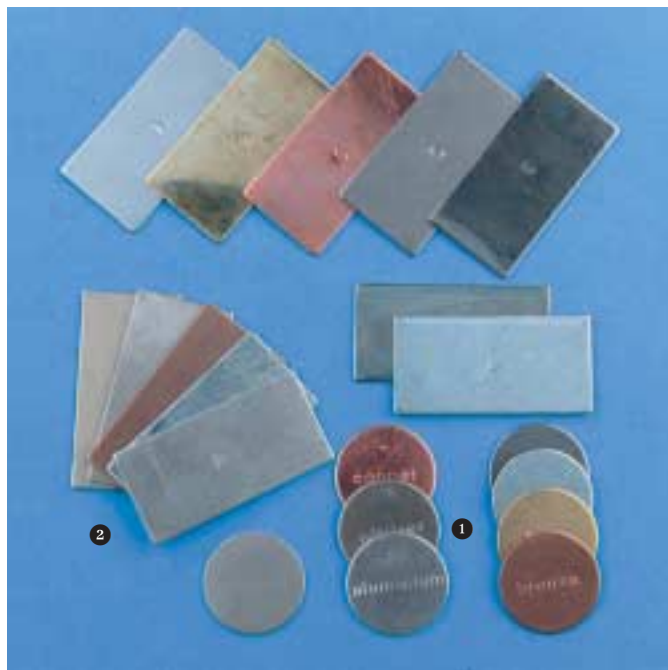
MA18960	Aluminium
MA18962	Brass
MA18964	Copper
MA18966	Iron
MA18968	Lead
MA18970	Zinc
MA18972	Tin

DISCS, METAL. Set of 8 25mm dia. discs either stamped with the name or blank. Comprising of Aluminium, Brass, Bronze, Copper, N/Silver, M/Steel, S/Steel and Zinc.

MA18980 ①	Stamped set
MA18982	Blank set

PIECES, METAL. Set of 12 metal pieces 50 x 25mm, each stamped with identifying letter. Comprising of Soft Aluminium, Hard Aluminium, Magnetic Stainless Steel, Non-Magnetic Stainless Steel, Zinc, Zinc Plate, Nickel Silver, Bronze, Galvanised Steel, Mild Steel, Copper and Brass.

MA18986 ②



PIECES, METAL. 50 x 25mm.

MA19000	Aluminium, soft
MA19002	Aluminium, hard
MA19004	Brass
MA19006	Copper
MA19008	Mild Steel
MA19010	Nickel Silver
MA19012	Stainless Steel
MA19014	Tin
MA19016	Zinc

STRIPS, METAL. 200 x 12mm.

MA19022	Aluminium, soft
MA19024	Brass
MA19026	Copper
MA19028	Mild Steel
MA19030	Tin

YOUNGS MODULUS - Vernier type. For the experimental determination relationship between a load applied to a wire and the resulting extension. Comprising of an engraved brass scale 10cm long and a vernier reading 0.1mm. Complete with tension weight but without load masses.

MA19050	Young's Modulus
MA19052	Young's Modulus Set of 6 Wires



MATS

BENCH MATS, Ceramic fibre approx 6mm thick.

MA10280	150 x 150mm
MA10281	200 x 200mm
MA10282	300 x 300mm



MEASUREMENT

MEASURING JUGS. Graduated PE. Lightweight.

	Capacity
ME10290	500ml.
ME10292	1000ml.

MEASURING JUGS, Graduated polypropylene.

	Capacity
ME10300 ③	250 x 25ml
ME10305	500 x 50ml
ME10310	1Lt x 100ml
ME10315	2Lt x 100ml
ME10320	5Lt x 500ml

RULERS - Hardwood - Plastic - Steel. See under **RULES**

TAPE MEASURE 'Taylors'. Overall length 1.6M. Graduated Imperial/Metric.

ME10321

TAPE MEASURE 'INVICTA'. A tough, nylon reinforced plastic tape measure 1M long x 3cm wide, with bold markings every 1cm and emphasised every 5cm and 10cm. In packs of 10 with a project card.

ME10322 ④



TAPE MEASURE. Flexible Steel. 3M x 13mm wide in chrome plated case and automatic return. Imperial and Metric graduations.

MEI0324 ①

TAPE MEASURE. Fibreglass tape measure in ABS plastic case with a plated flush winding handle. Width 13mm. Graduated in Metres/cm and mm with Feet/Inches on the reverse.

MEI0326 ② Length 20M

MEI0327 Length 30M

TAPE MEASURE. Fibreglass tape measure in a strong ABS plastic open frame with spade handle. Width 13mm. Graduated in Metres/cm and mm with feet and inches on the reverse.

MEI0328 ③ Length 30M

MEI0329 Length 60M



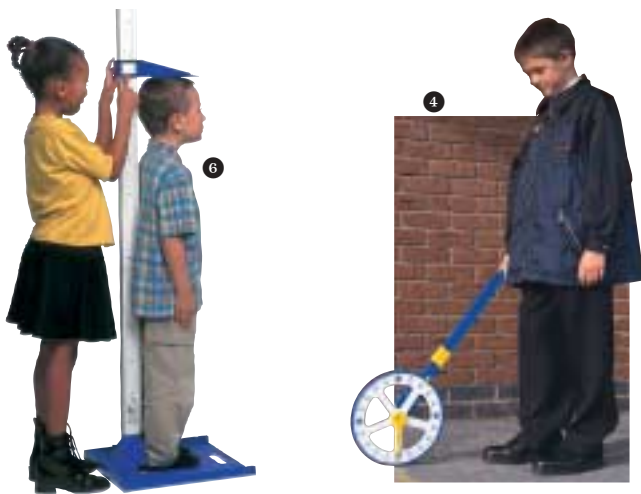
TRUNDLE WHEEL. 'INVICTA'. Made of heavy gauge plastic with a rubber tyre. Circumference of the wheel is 1M and gives an audible click every 10cm and 1M.

MEI0330 ④

MEASURING WHEEL. A professional 5 digit measuring wheel made from lightweight aluminium with a Hi-Grade ABS plastic display module and an oil resistant tyre. Adjustable shank with twist grip lock from 65 to 125cm. Maximum reading 9999.95 metres with roll over. Can be used for forward or reverse measuring. Complete with full instructions.

MEI9060 ⑤ Measuring Wheel

MEI9061 Carrying Case with shoulder strap



HEIGHT MEASURE. 'INVICTA'. An accurate and durable height measure, extending over 2M (6' 6"), the measurement scale is graduated with both Metric and Imperial values. When not in use it packs away into its own base. Supplied with project card.

MEI0332 ⑥

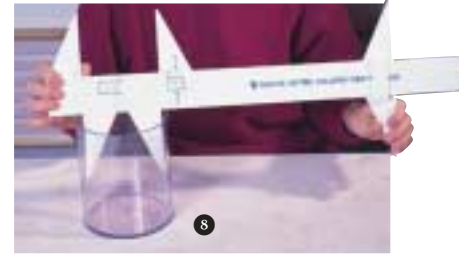
FOOT AND HAND MEASURE 'INVICTA'. This compact instrument will measure accurately the feet and hands of children and adults. Size: 40 x 23cm. Complete with full instructions.

MEI0333 ⑦

METRIC CALLIPER. 'INVICTA'. Can be used to measure the depth, width and thickness of most shapes from 1mm to 300mm.

MEI0336 ⑧

CALLIPERS & MICROMETERS - see also page 74



AREA MEASURING GRID. Flexible, transparent plastic sheet 25 x 25cm marked in centimetre squares. Supplied in packs of 2.

MEI0340 ⑨

LITRE SET 'INVICTA'. Set of 5 clear containers of different height and shape. Four hold exactly 1Lt and the fifth half a litre. Each is marked with 100ml increments.

MEI0342 ⑩



CLINOMETER 'INVICTA'. A lightweight angle and height measuring instrument. Point it at the top of a building or tree, pull the trigger, and then read the angle on the protractor. Height is easy to calculate using the guide supplied.

MEI0344 ⑪

THEODOLITE. A lightweight instrument with strong adjustable legs and built-in level indicator. Both the horizontal and vertical scales are clearly graduated in degrees giving measurements to an accuracy of 1/2 a degree. Complete with full instructions.

MEI0345 ⑫



MELTING POINT

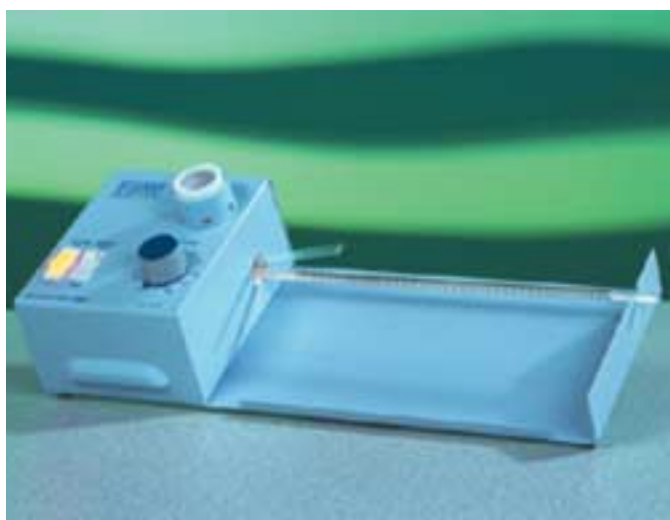
MELTING POINT APPARATUS. Stuart SMPI. Electrically heated, takes up to 3 samples with a maximum temperature of 360°C. Electronic temperature control with separate heater for boosting the heating rate and for use at high temperatures. Built-in illumination and viewing magnifier to give clear viewing of samples. The thermometer is at the same viewing level as the samples. Fitted with mains illuminated on-off switch panel mounted fuse and shelf for supporting spare melting point tubes. Supplied complete with 0-360°C thermometer and one pack of 100 Melting Point Tubes. For use on 220/240 Volts. Size 37 x 14 x 11cm

MEI0350 Melting Point Apparatus

Spares & Accessories:

MEI0355 Thermometer 0 to 360°C

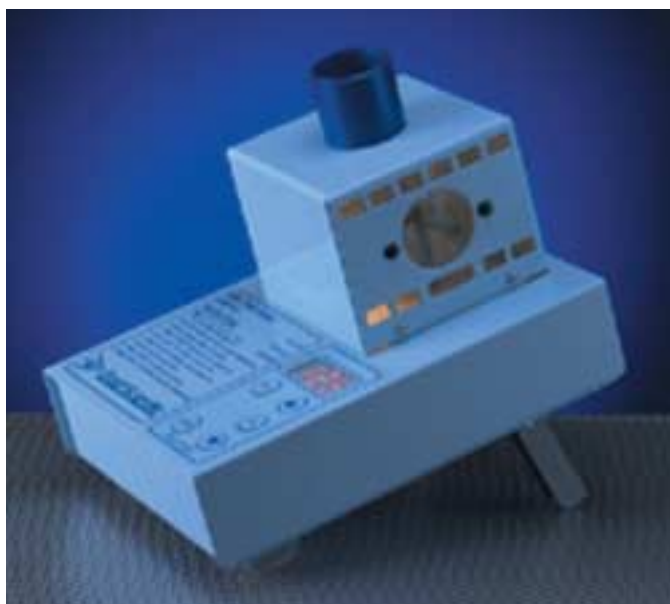
MEI0360 Cooling Plug, brass. Reduces temperature of heating block by approx 20°C in one min.



DIGITAL MELTING POINT APPARATUS 'Stuart SMPI0'.

Designed with safety and ease of operation in mind making it ideal for use in education. Two samples can be tested simultaneously. Built-in illumination and viewing magnifying lens give clear viewing of samples. Temperature range: Ambient to 300°C. Three digit LED display. Range rates: 20°C/min to plateau and 2°C/min to melt. Size: 160 x 220 x 170mm. For 220/240V.

MEI0365 SMPI0 Digital Melting Point Apparatus



MELTING POINT TUBES, CAPILLARY. Open both ends. Outside dia. 1.8 to 2.0mm. In cartons of 100.

Length

MEI0370 ① 75mm

MEI0375 ② 100mm

MELTING POINT APPARATUS, THIELE. A glass apparatus with side tube to allow stirring by convection of heating a liquid. Size 182 x 84mm.

MEI0384 ②



MICROSLIDE SYSTEM

See pages 220 - 222



MICROSCIENCE

A unique range of Student Kits for Biology, Chemistry and Physics. These "Lab in the Palm of your Hand" Kits are supported by the QCA, Royal Society of Chemistry and UNESCO and were developed in conjunction with leading educators. MicroScience is safe, economical, reliable, up-to-date, environmentally friendly, time saving, pupil centred and easy to use. Worksheets for students and manuals for teachers (both photocopy free) are available for all the kits.

MICROCHEMISTRY KITS

MICROCHEM BASIC KIT. An ideal introduction to MicroChemistry. This kit is linked to 30 National Curriculum based experiments from Key Stage 3 to A-Level

MII9500 ① **MicroChem Basic Kit**

MICROCHEM ADVANCED KIT. This comprehensive kit provides the equipment for more than 50 experiments covered in the MicroChem worksheet for Key Stage 3, Key Stage 4 and A-Level

MII9505 ② **MicroChem Advanced Kit**



MICROCHEM WORKSHEETS. A comprehensive folder containing student worksheets and teachers manual

MII9510 **Key Stage 3 Worksheets**

MII9512 **Key Stage 4 Worksheets**

MII9514 **A-Level Worksheets**



MICROCHEM CHEMICAL KITS. These kits provide enough chemicals to repeat each of the experiments covered in the corresponding worksheet pack 50 to 60 times.

MII9520 **Key Stage 3 Chemical Kit**

MII9522 **Key Stage 4 Chemical Kit**

MII9524 **A-Level Chemical Kit**



MICROCHEM COMBO-STILL. The Combo-still, winner of the WorldDidac 2000 Award, is capable of reproducing experiments in organic chemistry normally covered by expensive organic lab equipment from distillation to organic synthesis. Each kit is supplied with a starting manual.

MII9530 **Comb-Still**



MICROCHEM MICROBUCKETTE KIT. This kit is to be used in conjunction with the Advanced or Basic MicroChem kits to perform standard titrations with a high degree of accuracy

MII9535 ③ **Microburette kit**

Spares

MII9540

Propettes (Dropping pipettes)

MII9545

Combo Plates

MICROPHYSICS

MICROPHYSICS BASIC KIT. This kit allows students to study the basic principles of electricity. Topics covered include:- batteries and current flow, circuits -direction, series and parallel. Magnetic effects and chemical reactions and electricity in the home.

MII9600 ④ **MicroPhysics - Basic Electricity kit**

MII9602 **Teachers Manual**

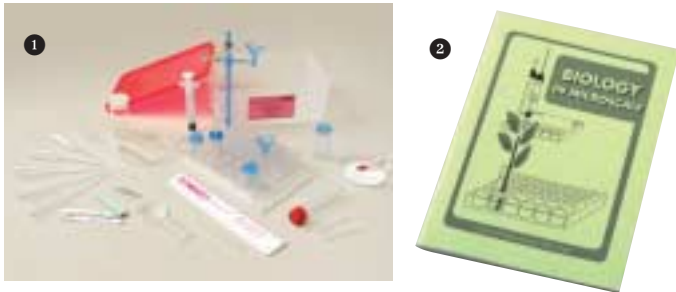
MII9604 **Student Worksheets**



MICROSCALE BIOLOGY

MICROBIO STUDENT KIT. This kit includes all the basic equipment required by teachers and students for performing work from Key Stage 3 to A-Level. For use with the manuals and Chemical Kit.

- MII19650 ① **MicroBio Kit**
- MII19652 ② **MicroBio Student Manual**
- MII19654 **MicroBio Teachers Manual**
- MII19656 **MicroBio Chemical kit**



MICROSCIENCE KIT. This is a brand new Microscience Kit which encompasses a large portion of the Key Stage 3 and 4 Practical Curriculum for Chemistry, Biology and Physics. All of the items of equipment required are included and the kit is designed for individual use or use in small groups. The microscale system is widely recognised for improved safety, reduced chemical waste, saving on the cost of chemicals and their disposal, more efficient and practical experiments for your pupils, opportunities for practical work in non specialist rooms, student ownership and motivation. Your pupils will enjoy experimenting with the system. Supplied in a Grattells tray with a set of worksheets.

- MII19660 ③ **Microscience Kit**
- MII19662 **Microscience Worksheet Key stage 3**
- MII19664 **Microscience Worksheet Key stage 4**
- MII19666 **Microscience Worksheet Key stage 5**
- MII19668 ④ **Key Stage 3/ Keystage 4 microscience Teachers Resource Kit for Chemistry, Biology and Physics***

*Chemicals and solutions are provided in the Teachers Resource Kit. The solutions are made up to required concentrations for most of the experiments.



MICROLIFE WATER MONITORING KIT. Designed to perform basic experiments testing water quality. The kit provides enough equipment to enable most of the chemical test to be conducted on 10 water samples, so as to enable students to conclude whether the water is in good, fair or poor condition. Complete with a comprehensive manual.

- MII19670 **MicroLife Water Monitoring Kit**



MICROLIFE WATER FIELD KIT. Designed for use in the lab or in the field. Topics covered include:-Biological oxygen, Dissolved oxygen, Orthophosphates, Turbidity, E.coli, Nitrates, pH, Conductivity, Nitrites and Temperature. Complete with user friendly worksheets and resource materials.

- MII19675 **MicroLife Water Field Kit**



Motic® MICROSCOPES

- Designed to meet the needs of education.
- High Quality microscopes at affordable prices.

STUDENT MICROSCOPES

JUNIOR MICROSCOPE MS-2

Ideal for class use, field work, biology, geology studies. The MS-2 is easy to use and has high quality optics giving a clear sharp upright image.

Specification:

- Monocular head, inclined 45 degrees and 360 degrees rotating
- x10 WF Eyepiece
- x2 Objective
- Rack and Pinion focusing

MI.10432



STUDENT COARSE MICROSCOPE SFC-3A

A 3/4" sized basic microscope combining ease of operation with mechanical strength.

Specification:

- Vertical monocular head
- x10 WF Eyepiece
- x4, x10 and x40 (R) objectives
- Rack and Pinion coarse focusing
- Rotary disc diaphragm
- 42mm plano-concave mirror

MI.10434

MI.10434/10



STUDENT FINE MICROSCOPE SFC-3AF

Similar to the student coarse microscope but with the addition of a fine focus control as well as the standard coarse adjustment.

MI.10436

MI.10436/10

Spares and Accessories for the SFC-3A and 3AF

MI.10437

Substage Illuminator 12V.10W

MI.10438

Spare Bulb 12V. 10W

MI.10439

42mm Plano-concave mirror and fork



STUDENT ADVANCED MICROSCOPE SFC-100FL

An exceptional microscope with high quality optics and a 360 degree rotatable head with either Tungsten or Halogen illumination.

Specification:

- Monocular head, inclined 45 degrees and 360 degrees rotating
- x10 WF Eyepiece with pointer
- x4, x10 and x40 (R) DIN objectives
- Coarse and Fine rack and pinion focussing
- 0.65 NA Condenser
- Iris diaphragm
- Tungsten Sub-stage Illuminator 20W.240V

MI.10440

MI.10440/10



STUDENT ADVANCED MICROSCOPE SFC-100FL (H)

As the SFC100FL, except with 12V/ 10W Halogen illumination

MI.10441

Spares and Accessories for SFC100FL

MI.10442 x15 WF Eyepiece

MI.10443 Eyepiece Graticule
19mm dia. 10 x 0.1mm with holder

MI.10444 x100 O.I. Objective

MI.10445 Mechanical Stage

MI.10446 Plastic Case

MI.10447 Spare Bulb 20W.240V

MI.10448 Spare Bulb 12V/ 10W

ROUTINE TEACHING MICROSCOPES F I I-SERIES

A range of 3 microscopes with high quality DIN achromatic standard optics perfect for all routine and course work in schools and colleges.

MICROSCOPE MODEL F I I 10

Specification:

- Monocular head, inclined 45 degrees and 360 degrees rotating
- x10 WF Eyepiece
- x4, x10 and x40 objectives
- Quadruple nosepiece
- Built in 0.65 condenser on stage
- Coarse and fine focussing
- Iris diaphragm with filter holder and blue filter
- Built in halogen illumination 12V/10W

MI.10450



MICROSCOPE MODEL F1115

Specification:

- As the F1110 but with a focusable 1.25 Abbe condenser

MI.10452



MICROSCOPE MODEL F1125

Specification:

- As the F1115 but with a dual view head and paired x10 WF Eyepieces.

MI.10454



Spares and Accessories for F11 Series

- MI.10442** x15 WF Eyepiece
- MI.10443** Eyepiece Graticule 19mm dia. 10 x 0.1mm with holder
- MI.10444** x100 O.I. Objective
- MI.10445** Mechanical Stage
- MI.10446** Plastic Case
- MI.10456** Spare Halogen Bulb 12V/10W

CORDLESS LED MICROSCOPE F1110-LED

A fully portable microscope, specification as MI10450 on page 98 except the illumination is by a L.E.D. 20mA 3-5V 70mW. Powered by rechargeable batteries giving upto 60hrs operation per charge. Supplied complete with mains charger.

MI.10458



ADVANCED TEACHING MICROSCOPES 28 SERIES

A range of 3 traditional microscopes with a modern design containing a reliable coaxial focusing system and reverse facing nosepiece for ease of looking at prepared slides. Students will meet this design in their further education.

MICROSCOPE MODEL 2801

Specification:

- Monocular head, inclined 45 degrees and 360 degrees rotating
- x10 WF Eyepiece
- x4, x10 and x40 Achromatic objectives
- Quadruple nosepiece (ball bearing type)
- Focusable 1.25 Abbe condenser (Spiral mount type)
- Coaxial coarse and fine focusing
- Iris diaphragm with filter holder and blue filter
- Built in halogen illumination 12V. 20W with intensity control

MI.10460



MICROSCOPE MODEL 2802

Specification:

- As Model 2801 except with a built-in low position coaxial mechanical stage.

MI.10462



MICROSCOPE MODEL 2820

Specification:

- As Model 2802 except with a Binocular head and paired x10 WF eyepieces.

MI.10464



Spares and Accessories for 28 Series

- MI.10442** x15 W.F. Eyepiece
- MI.10443** Eyepiece Graticule 19mm dia. 10 x 0.1mm with holder
- MI.10470** x100 Achromatic O.I. Objective
- MI.10471** Mechanical Stage
- MI.10472** Aluminium Box
- MI.10473** Spare Bulb 12V 20W

ADVANCED BIOLOGICAL MICROSCOPES BI-SERIES

A range of research quality microscopes at affordable prices, suitable for all levels in schools and colleges.

ADVANCED MICROSCOPE BI-211A

Specification:

- Monocular head, inclined 45 degrees and 360 degrees rotating
- x10 W.F. Eyepiece
- D.I.N. x4, x10, x40 and x100 O.I. Objectives (x4 Plan achromatic, all others achromatic)
- Quadruple nosepiece (ball bearing type)
- Focusable 1.25 Abbe condenser
- Coaxial coarse and fine focusing
- Iris diaphragm with filter holder and blue filter
- Built-in low position coaxial mechanical stage
- Built-in halogen illumination 12V/20W with intensity control

MI.10490



ADVANCED MICROSCOPE BI-220A

As Model BI-211A except with a binocular head with paired x10 WF Eyepieces

MI.10492



ADVANCED MICROSCOPE BI-223A

As Model BI-220A except with a Trinocular head, inclined at 30 degrees and 360 degrees rotating. Complete with CCD and photo adaptors.

MI.10494



Spares and Accessories for BI Series

- MI.10442** x15 WF Eyepiece
MI.10443 Eyepiece Graticule 19mm dia.
 10 x 0.1mm with holder
MI.10496 Eyecups (pair)
MI.10497 Aluminium Case
MI.10498 Halogen Bulb 12V/20W

STEREO MICROSCOPES

STEREO MICROSCOPE S-10-P

A low cost stereo microscope with x20 magnification

Specification:

- Vertical binocular head
- x10 WF Eyepieces (paired)
- x2 slide-in objective
- Plain pillar stand
- Coarse rack and pinion focusing
- Reversible black and white plate
- 80mm working distance
- 10mm dia field of view
- Supplied with dust cover and rubber eyecups

MI.10550



STEREO MICROSCOPE ST-30C-2LOO

An advanced stereo microscope with up to x40 magnification complete with incident and transmitted illumination.

Specification:

- Binocular head 45 degrees inclined
- x10 WF Eyepieces (paired)
- x2, x4 Turret type objective
- Incident and transmitted illumination 12V/10W
- Rack and Pinion focusing

MI.10552

Spares

MI.10555
Spare Halogen Bulb (Incident)

MI.10556
Spare Tungsten Bulb (Transmitted)



STEREO MICROSCOPE ST39 SERIES

Exceptional quality laboratory stereo microscopes giving an excellent 3D image with high resolution and full colour correction. Ideal for school, college and university use.

MODEL ST-39-C

Specification:

- Binocular head 45 degrees inclined, 360 degrees rotating
- x10 WF Eyepieces (paired)
- x2, x4 Turret type objective
- Halogen incident light 12V 10W
- Tungsten transmitted light 12V 10W

MI.10560

MODEL ST-39-Z

Specification:

- As ST39C except with a x1 to x3 zoom objective in place of the Turret Type

MI.10562 each

Spares and Accessories for ST39 Series

- MI.10570** x5 WF Eyepieces (pair)
MI.10571 x15 WF Eyepieces (pair)
MI.10572 x20 WF Eyepieces (pair)
MI.10573 Eyecups (pair)
MI.10574 Wooden Box
MI.10555 Spare Halogen Bulb (Incident)
MI.10556 Spare Tungsten Bulb (Transmitted)



LONG ARM STEREO SL 4 I

A versatile microscope designed for maximum working distance. The 45 degrees inclined head is mounted on a 225mm long arm which is adjustable up to 300mm above the heavy base giving good stability.

Specification:

- Binocular head 45 degrees inclined
- x10 WF Eyepieces (paired)
- x2 long working distance objective
- Rack and pinion focusing
- Pen light illumination 12V/10W

MI.10580

Spares and Accessories for SL-4 I

- MI.10571** x15 WF Eyepieces (paired)
MI.10572 x20 WF Eyepieces (paired)
MI.10584 x1 Objective (LWD)
MI.10585 x3.5 Objective (LWD)
MI.10573 Eyecups (pair)
MI.10587 Spare Bulb 12V/10W



JUNIOR DIGITAL MICROSCOPY

DIGISCOPE 300 MICROSCOPE

A high quality low cost digital microscope ideal for enabling pupils to capture images of objects and organisms directly on a computer. With the camera removed it can be used as a standard microscope to view prepared slides or, with the easily convertible stage, be used to view pond water creatures, rocks, plants etc

- Capture and edit still images
- time lapse video
- Zoom magnification x20 to x100
- Cool bright LED illumination
- Measure microscopic images
- Powered by 3 x AA batteries
- Size 128 x 112 x 176mm
- Supplied with full instructions, motic play CD ROM, carry case and accessories

MI.10396



ADVANCED DIGITAL MICROSCOPY

The MotiC Digital Microscopes and CCD Cameras allow students to view high quality images on a TV and/or Computer, using 'state of the art' technology at an affordable price.

Two options are available:-

1. **The MotiC 1.3 Software** (Camera 2) is for use with a computer and incorporates a USB Plug and Play facility.
2. **The MotiC Plus 2.0 Software** (Camera 3) may be used with a computer or T.V. The in-built frame grabber converts an analogue signal to a digital signal suitable for use with USB, RCA and S-Video applications

Both options are easy to use and come complete with all the necessary software and connecting leads.

Requires Windows 98/Me/2000/XP

(USB 2 requires Windows 2000/XP, 256MB Ram and a 32MB Graphics card)

MOTIC IMAGES SOFTWARE FEATURES:

FEATURE:	MOTIC 1.3	MOTIC PLUS 2.0
Instant Image Capturing	✓	✓
Real-time full screen image	✓	✓
Programmed Interval Captures	✓	✓
Video Capture by Time Settings	✓	✓
Easy Measurement Calibration	✓	✓
Measurement in microns, inches, millimetres	✓	✓
Length Measurements	✓	✓
Ellipse, Rectangle, Irregular		
Shape Measurements	✓	✓
Perimeter, Radius, Circumference, Angle Measurements		✓
Magnifier (zoom) function		✓
Distant Image Sharing	✓	✓
On-line files sending/receiving	✓	✓
Sound recording	✓	✓
Image amalgamation	✓	✓
Automatic Image amalgamation		✓
Image Adjustment Effects	✓	✓
Automatic Cell Counting		✓
Data Export		✓
Report Generating and Print Out		✓
Interactive File Format		✓
MP3 compatible		✓

DIGITAL MICROSCOPES

ADVANCED TEACHING MICROSCOPE DM-1802

Specification:

- Monocular head 30 degrees inclined with built-in 1/4" CCD (Camera 2)
- WF Eyepiece x10 (FN18)
- Achromatic objectives EA x4, x10 and x40
- Quadruple revolving nosepiece
- Coarse and fine focusing
- Built-in low position coaxial mechanical stage
- Focusable 1.25 N.A. Abbe condenser with iris diaphragm.
- Built-in halogen illumination 12V/20W with intensity control.

MI.10590



TEACHING STEREO MICROSCOPE DM-39C

Specification:

- Binocular head 30 degrees inclined with built-in 1/4" CCD (Camera 2)
- Eyepieces WF x10 (paired)
- Objective: Turret x2, x4
- Built-in Incident and transmitted illumination 12V/10W

MI.10591



TEACHING STEREO ZOOM MICROSCOPE DM39Z

Specification:

- Binocular head 30 degrees inclined with built in 1/4" CCD (Camera 2)
- Eyepieces WF x10 (paired)
- Zoom objective x1 to x3
- Built-in Incident and transmitted illumination 12V/10W

MI.10592



ADVANCED BIOLOGICAL MICROSCOPE DMWBI-223A

Specification:

- Binocular head 30 degrees inclined with built in 1/3" CCD (Camera 3)
- Eyepieces WF x10 (paired)
- Plan x4 and achromatic x10, x40 and x100 O.I. objectives
- Quadruple revolving nosepiece
- Built-in low position coaxial mechanical stage
- Focusable 1.25 N.A. Abbe condenser with iris diaphragm
- Coaxial coarse and fine focusing
- Built-in Halogen illumination 12V/20W with intensity control

MI.10593



Motic® CAMERAS

SPECIFICATIONS & FEATURES



Camera	Moticam 330P	Moticam 350	Moticam 480P (PAL)	Moticam 1000
Image Device	1/3" Interline CCD	Panasonic 1/4" Interline CCD	Sony 1/3" Interline CCD	1/2" CMOS
Lens	12mm CCD	8mm CCD	12mm CCD	16mm CCD
Effective Pixels	659 x 494 pixels	659 x 494 pixels	768 x 576 pixels	1240 x 1024 pixels
Still Image Resolution	640 x 480 pixels	640 x 480 pixels	768 x 576 pixels	1240 x 1024 pixels
Scanning System	15-30 frames/sec	8-15 frames/sec	30 frames/sec(320x240 pixels)	Progress Scan Mode
Data Transfer	N/A	7.5 MB/second	7.5MB/second	480MB/second
Minimum Illumination	2 Lux	5 Lux	3 Lux	3 Lux
Lens Mount	C-Mount	C-Mount	C-Mount	C-Mount
Shutter	Automatic	Automatic	Automatic/Manual	Automatic
Magnification	50:1 and greater	50:1 and greater	50:1 and greater	50:1 and greater
Audio Output	Transmission across Images 2000 direct into memory of PC*	Transmission across Images 2000 direct into memory of PC	Transmission across Images 2000 direct into memory of PC	Transmission across Images 2000 direct into memory of PC
Video Output	Transmission across Images 2000 direct into memory of PC*	Transmission across Images 2000 direct into memory of PC	Transmission across Images 2000 direct into memory of PC	Transmission across Images 2000 direct into memory of PC
White Balance	Automatic	Automatic	Automatic	Automatic
USB Output	No	Yes	Yes	Yes (USB 2)
Composite TV Output	Yes	No	Yes	No
S-Video TV Output	No	No	Yes	No
TV Horizontal Resolution	330 Lines	350 Lines	480 Lines	N/A
USB Power Supply	N/A	5V self-powered from computer	5V self-powered from computer	5V self-powered from computer
Analog Use Power Supply	12V	N/A	12V	N/A
Microscope Adapter	4 Different sizes included	4 Different sizes included	4 Different sizes included	4 Different sizes included
Warranty	12 months	12 months	12 months	12 months

*Requires Motic capture card (details on request)

MOTICAM 330P

Supplied with:

- 4 eyepiece adaptors (28, 30, 34 & 35mm)
- Macro viewing tube
- 12V linea switching power supply
- Full instructions

MI.10595 Moticam 330P

MI.10596 Moticam 330P complete with Gooseneck Stand 600mm



MOTICAM 350

Supplied with:

- Motic Plus 2.0 Software Multi-language
- 4 eyepiece adaptors (28, 30, 34 & 35mm)
- Two calibration slides
- Macro viewing tube
- Full instructions

MI.10597



MOTICAM 480P

Supplied with:

- Motic Plus 2.0 Software Multi-language
- 4 eyepiece adaptors (28, 30, 34 & 35mm)
- USB, RCA and S-Video cables
- 12V linea switching power supply
- Two calibration slides
- Macro viewing tube
- Full instructions

MI.10598**MOTICAM 1000**

Supplied with:

- Motic Plus 2.0 Software Multi-language
- 4 eyepiece adaptors (28, 30, 34 & 35mm)
- USB 2.0 PCI card
- Calibration slide
- Macro viewing tube
- Full instructions

**MI.10599****Accessories & Software**

- MI.10604** Gooseneck stand for Moticam 350
- MI.10605** Gooseneck stand for Moticam 480P
- MI.10608** Upgrade package Motic 1.3 to Motic Plus 2.0
- MI.10609** Motic Plus 2.0 student version

SWIFT MICROSCOPES**SWIFT M3500 SERIES.**

Inclined monocular microscopes with rotating head, square focusing stage with coarse and fine controls and rectangular box base, flat field DIN standard objectives and eyepiece with pointer. Illumination by an 'Ultra-Lite' fluorescent 240V 5W lamp with frosted filters.

SWIFT M3501DF.

Triple nose piece with x4, x10 and x40 objectives, x10W eyepiece, NA0-65 condenser and disc diaphragm.

MII0505 ①**SWIFT M3502DF.**

Quadruple nose piece with x4, x10 and x40 objectives, x10W eyepiece, Abbe NA 1.25 condenser with iris diaphragm.

MII0506**SWIFT M3504 DF TUTORHEAD.**

As the M3502 DF except with double viewing head for use as a tutor tube or TV tube and supplied with 2 x 10W eyepieces and x 100 oil immersion objective.

MII0507 ②

Accessories:

- MII0510** Eyepiece x15W with pointer
- MII0511** Objective x20
- MII0512** Objective x100 (oil immersion)
- MII0513** Graduated mechanical stage
- MII0514** Television mounting tube
- MII0515** Spare bulb 240V 5W



ZENITH MICROSCOPES.



ZENITH SCM-200 JUNIOR MICROSCOPE.

A compact microscope of die-cast construction with a 45° inclined monocular head designed for Primary and Middle schools. Specification: x10 eyepiece, x4, x10 x40(R) objectives, triple nosepiece, 6 hole disc diaphragm, stage condenser (N.A. 0.65), plane stage 92x90mm, single focusing control with reducer gear for easy, positive focusing and concave mirror. Supplied with dustcover.

MII0524

ZENITH T-70 SERIES.

Robust microscopes of die-cast construction with locked-on stage-clips, objectives and eyepiece. The ingenious base design converts the microscope from vertical to inclined when rotated. Specification: x10W eyepiece with pointer, x4, x10, x20(R) objectives, 5 hole disc diaphragm, triple nosepiece and plane stage 92x92mm. Supplied with dustcover.

MII0526 ① T-70M with plano-concave mirror.

MII0527 ② T-70L with substage illuminator 230V 6W

MII0528 Spare Bulb 230V 6W



ZENITH ULTRA-400 SERIES.

Advanced student microscopes designed to withstand heavy classroom use with a 45° inclined monocular head (rotatable through 360°) and DIN standard objectives. Specification: x10(W) eyepiece with pointer, x4, x10, x40R achromatic objectives, triple nosepiece, coarse and fine focusing controls with slip clutch, rack and pinion focusing, plane stage 120x114mm and built-in 230V 20W substage illuminator. Supplied with dustcover.

MII0532 ③ Ultra-400L with stage condenser (N.A. 0.65) and 5 hole disc diaphragm

MII0533 ④ Ultra 400 LA with Abbe condenser (N.A. 1.25) in spiral focusing mount with Iris diaphragm

MII0534 Spare Bulb 230V 20W



VIDEO MICROSCOPY.

STUDENTCAM.

A desk top colour CCD camera for classroom viewing and magnification of objects, maps and technical documents. Suitable for use with almost any microscope or telescope. The lens focuses from infinity down to 25mm for great close-ups. Colour is captured under virtually any light conditions down to 1.5 lux and when used on a microscope/telescope it provides a simple cost effective way to present magnification of scientific subjects on a monitor for group study. Specifications: - Camera: High resolution (8.5mm) colour CCD 8mm C-mount lens. Resolution: 300 TV lines horizontal, 400 TV lines vertical. Compatibility: NTSC and PAL. Focus: 25mm to infinity. Sensitivity: 1.5 lux recommended min. Audio: Standard audio microphone, two standard RCA jacks. Operating Temp: -10°C to +50°C. Size: Base 178 x 184mm, flexible gooseneck 450mm, head 69 x 46 x 66mm. Supplied complete with microscope adaptor and 12V dc mains adaptor.

MII0648



TEACHCAM.

Performs all the functions of the Studentcam but contains the following additional features:—

An extended (650mm) gooseneck mounted on a unique adjustable illumabase which enables the 'Teachcam' to be used to project 35mm slides, microscope slides or small objects such as insects and pond life by placing them in transparent illumabase-boxes. The Teachcam is supplied in a wooden box complete with 3 microscope adaptors, leads, illumabase-boxes and illumabase-slides.

MII0649



MICROSCOPE LAMPS



MICROSCOPE LAMP. The lamp housing is attached to a 20cm high pillar on a metal base with a boss allowing adjustment in any direction. Removable hood has a 40mm aperture fitted with a blue filter.

MII0650 Microscope Lamp 240V 60W

MII0655 Spare Bulb 240V 60W

See also under **LAMPS**

MICROSCOPE ACCESSORIES

GRATICULES

EYEPIECE GRATICULES. On glass discs 19 and 21mm dia, to fit most eyepieces (other sizes and types are available on request - ask for details).

MII0700 ① Horizontal Scale length 10 x 0.1mm 19mm dia.

MII0701 21mm dia.

MII0705 Vertical Scale length 10 x 0.1mm 19mm dia.

MII0706 21mm dia.

STAGE GRATICULES. The micrometer scale is on a disc mounted on a black anodised slide, size 76 x 25mm suitable for all microscopes.

MII0710 ② Length 10mm x 0.1mm

MII0715 Length 1mm x 0.01mm

MII0735 ③ Sedgewick Rafter Counting Cell



①



③



②

HAEMACYTOMETERS

HAEMACYTOMETER SET. 'Clearsight', complete with single or double counting chamber, with Improved Neubauer Ruling. 2 Cover Glasses, 1 red and 1 white cell pipettes, each with tubing and mouthpiece, in plastic case.

MII0750 Single Cell Set

MII0755 Single Cell Counting Chamber with Cover glasses only

MII0770 ④ Double Cell Set

MII0775 Double Cell Counting Chamber with Cover glasses only

Spares & Accessories:

MII0800 Cover glass 22 x 25mm

MII0810 Red cell pipette

MII0815 White cell pipette

MII0820 Tubing and mouthpiece



④

BLOOD LANCETS, Sterile

MII0855 ⑤

MEDICAL SWABS, STERILE. For cleaning the skin.

MII0860 ⑥

BLOOD.

MII0865 Horse, Oxalated

MII0870 Horse, Defibrinated

MII0871 Sheep, Defibrinated



⑤

⑥

MICROSCOPE SLIDES & ACCESSORIES

MICROSCOPE SLIDES, Economy Grade, 75 x 26mm. Thickness 0.8 to 1.2mm, washed with ground edges. Ideal for general class-room use.

MII0901

MICROSCOPE SLIDES. 76 x 26mm, pre-washed with ground edges.

Thickness

MII0906 0.8 to 1.0

MII0907 ⑦ 1.0 to 1.2

MII0908 1.2 to 1.5

MICROSCOPE SLIDES, Cavity. 76 x 25mm. Thickness 1.25mm with round polished 15mm cavity.

MII0920 ⑧

COVER GLASSES No. 0. Resistance Glass, 0.09 to 0.13mm thick.

Size

MII0925 ⑨ 19mm dia.

MII0930 18 x 18mm

MII0935 22 x 22mm

COVER GLASSES No. 1. Resistance Glass 0.13 to 0.16mm thick.

Size

MII0940 19mm dia.

MII0945 18 x 18mm

MII0950 22 x 22mm



⑧

⑨

⑦

COVER GLASSES No. 1 1/2. Resistance Glass 0.16 to 0.19mm thick. Microscopes are generally corrected for this thickness.

	Size
MII 1005	16mm dia.
MII 1010	19mm dia.
MII 1015	22mm dia.
MII 1025	18 x 18mm
MII 1030	20 x 20mm
MII 1035	22 x 22mm
MII 1040	22 x 26mm
MII 1045	22 x 32mm
MII 1050	22 x 40mm

COVER GLASSES No. 2. Resistance Glass 0.19 to 0.25mm.

	Size
MII 1066	18 x 18mm
MII 1071	22 x 22mm

COVER GLASS FORCEPS. Stainless Steel with Spatula ends. MII 1075

MICROSCOPE SLIDE DISPENSER. For 76 x 26 slides. Holds up to 50 slides which are dispensed by turning the knobs on either side. MII 1080 ①

MICROSCOPE SLIDE FOLDER. To hold 20 slides 76 x 25mm with two hinged flaps and numbered positions. MII 1100

MICROSCOPE SLIDE BOX. Leatherette covered wood, with hinged lid, wooden racks and numbered name sheet.

MII 1105	To hold 50 slides
MII 1110	To hold 100 slides

MICROSCOPE SLIDE BOX, made from tough plastic. Numbered slots for 50 slides. Close fitting lid complete with numbered card index. MII 1115 ③



PREPARED MICROSCOPE SLIDES

See pages 221 - 225

MICROSCOPE SLIDE STAINING

HAND MICROTOME. For section cutting. Brass top plate 6.3cm dia. with centred hole 2.3cm dia. Overall length 7.5cm. The milled head at the base when revolved records 20 microns per click. MII 1125 ④

STAINING BLOCK (Cavity). Clear polished glass, 6mm deep cavity with flat glass cover.

MII 1145	⑤	40 x 40mm
MII 1150		60 x 60mm

STAINING JAR, Coplin. Glass with lid, to hold 10 slides 76 x 26mm. MII 1155 ⑥

STAINING JAR, Polypropylene. With screw-on lid to hold 10 slides. MII 1160 ⑦

STAINING TROUGH. Glass with lid. To hold 20 slides. 76 x 26mm horizontally. MII 1165 ⑧



MIXERS

LIQUIDISER, 1Lt. goblet, marked in imperial and metric measures with a pouring lip. The goblet has a wide rounded base for thorough mixing and the cutting blade has been specially designed for highly effective operation. Complete with grinder attachment MII 1180



MODELS

ANATOMICAL MODELS

HUMAN SKELETON. A full size plastic skeleton which is fully articulated. Complete with stand.

MOI 1200 ①

MINI SKELETON. With 3 -part skull. Skull can be dismantled into skull cap, base and lower jaw. Arms and legs are movable. Comes on a removable stand. Height 65cm

MOI 1204 ②

SKELETON MODEL 'Mr. Thrifty'. A half size model (approx. 85cm) of the human skeleton made from top quality plastic. Main joints are articulated. Complete with metal stand.

MOI 1205 ③



DIMENSIONAL MAN. A 2.5M tall half skeletal, half muscular pop-up card figure which introduces basic anatomy. Includes a key to all parts identifying 304 bones, muscle groups, organs, arteries and veins.

MOI 1206 ④

HUMAN SKULL. High quality, original cast of a human skull. Dissectible into 3 parts for detailed studies.

MOI 1207 ⑤



EARLY MAN SKULLS. Life size models, moulded for the Natural History Museum from their own reconstruction. Supplied complete with background notes.

MOI 1250 ⑥ Rhodesian man (*Homo rhodesiensis*)

MOI 1251 ⑦ Piltdown man (*Eoanthropus dawsoni*)

MOI 1252 ⑧ Pekin man (*Homo erectus*)

MOI 1253 ⑨ Neanderthal man

(*Homo sapiens praesapius*)

MOI 1254 ⑩ Cro Magnon man

MOI 1255 ⑪ Steinheim man (*Homo sapiens praesapius*)

MOI 1256 ⑫ Olduvai man (*Australopithecus boisei*)



MINIATURE JOINTS. Articulated to show natural movement. Each model is approximately 15cm long.

- MOI 1260** ① Miniature knee joint with patella
- MOI 1261** ② Miniature shoulder joint
- MOI 1262** ③ Miniature elbow joint
- MOI 1263** ④ Miniature hip joint



JOINT MODELS Life sized functional models with ligaments

- MOI 1265** ⑤ Shoulder joint
- MOI 1266** ⑥ Knee joint
- MOI 1267** ⑦ Hip joint
- MOI 1268** ⑧ Elbow joint



FLEXIBLE SPINAL COLUMN

Designed for hands on demonstrations, contains the following features: Full pelvis and occipital plate, fully flexible, L3-L4 disc prolapsed, spinal nerve exits and cervical vertebral artery. Length 74cm. Stand is not included

MOI 1270

Spine with Male pelvis

MOI 1271

Spine with Female pelvis

MOI 1272

Stand

SLIPPED DISC. Two lumbar vertebrae with spinal nerves, spinal cord, and two replaceable prolapsed discs between the 4th and 5th lumbar vertebrae. Height: 13cm

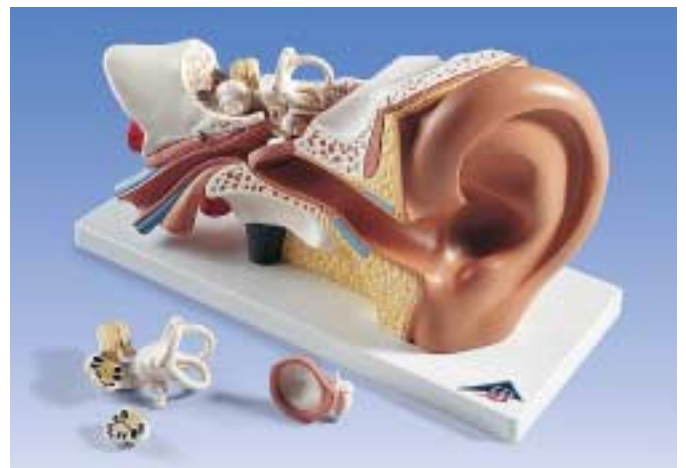
MOI 1274



EAR. A 4 part model enlarged about 3 times. Representation of outer, middle and inner ear. Removable ear drum with hammer, anvil and stirrup as well as 2 part labyrinth with cochlea and auditory balance nerve.

Size: 34 x 16 x 19cm

MOI 1209



FUNCTIONAL EAR, shows pinna, auditory canal, tympanic membrane, ear bones, cochlea and semi-circular canals isolated from surrounding tissues. Approx x3 enlarged and mounted on stand so the effect of vibration can be demonstrated. Supplied with key card.

MOI 1212



EYEBALL. Enlarged about 3 times and separates in a horizontal plane into 6 parts, showing the ocular muscles, blood supply, vitreous body, optic disc, ciliary body, iris, cornea, retina and sclera. Mounted on a pedestal stand 15cm high. Supplied with key card.

MOI1216 ①

HUMAN HEART, Economy model. A life sized model, dissects into 2-parts and mounted on a stand with key card

MOI1217 ②



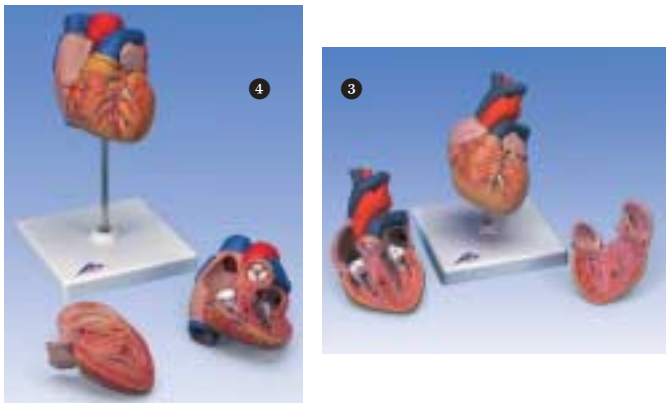
HEART. A highly detailed 2-part heart. The front heart wall is detachable to reveal the chambers and valves inside. Size: 19x12x12cm

MOI1218 ③

HEART. A life sized 2-part model which shows the anatomy of the human heart with ventricles, atriums, valves, veins and the aorta in great detail.

Size: 22x12x12cm

MOI1219 ④

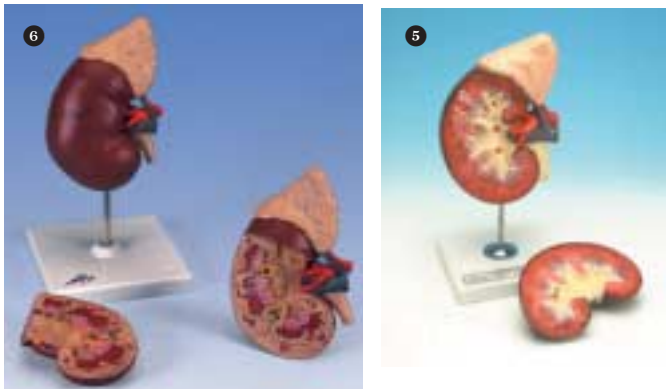


KIDNEY. With adrenal gland. Economy Model dissects into 2-parts, mounted on a stand with key card.

MOI1220 ⑤

KIDNEY. With adrenal gland. A 2-part model of a kidney with adrenal gland, the model also shows the renal and adrenal vessels and the upper position of the ureter. Size: 20x12x12cm

MOI1221 ⑥

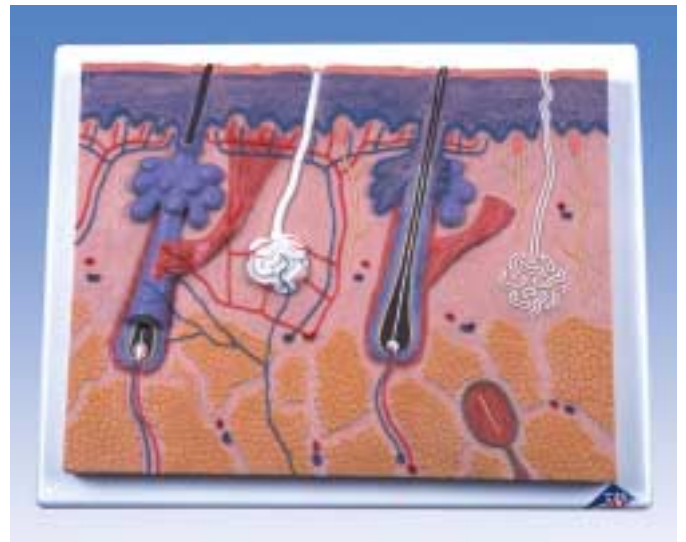


BRAIN. A 2 part model of a medially divided brain. Size: 15x14x17.5cm
MOI1224



SKIN SECTION This relief model: 70 times full size, shows a section through the three layers of the hair covered skin of the head, showing hair follicles with sebaceous glands, sweaty glands, receptors, nerves and vessels. Size: 26x33x5cm

MOI1226



LOWER JAW A 6 part, 3 times life sized model of the left half of the lower jaw of a young person. One section of bone is removable to expose the tooth roots, spongiosa, vessels and nerves. The canine and first molar are removable and longitudinally sectioned. Size: 35x18x36cm

MOI1240



GIANT TEETH AND TOOTHBRUSH. A 2 x lifesized model for demonstrating dental hygiene and tooth care. Complete with giant toothbrush.

MOI 1242 ①

HUMAN TORSO. 50cm high separating into 11 parts with removable 2 piece head showing respiratory tract, sectioned brain, 2 part heart, 2 lung halves, stomach, liver and intestines. All parts are unbreakable. Supplied in black ABS case.

MOI 1230 ②

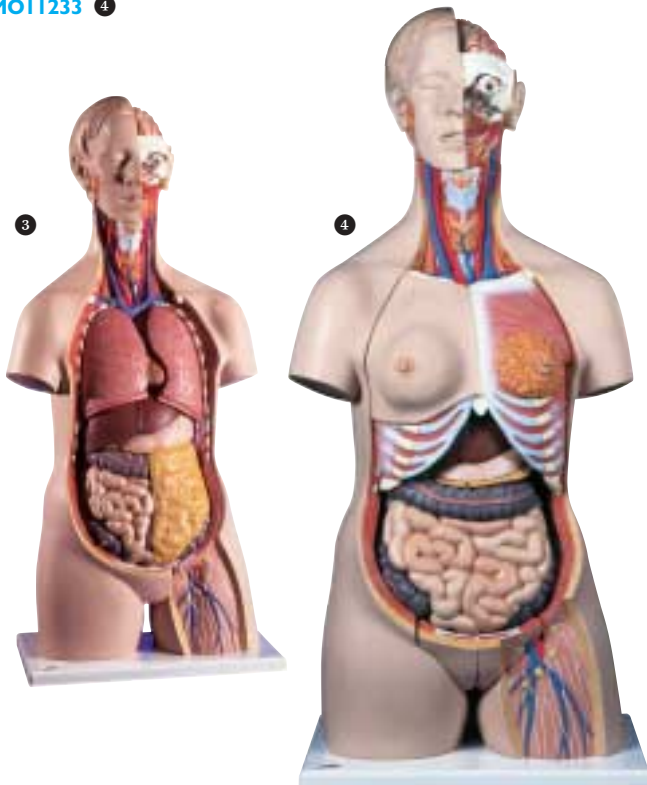


HUMAN UNISEX TORSO, A highly detailed full sized torso. Dissectible into 14 parts consisting of:- 3 part head, 2 lungs, 2 part kidney, stomach, liver with gall bladder, 2 part intestinal tract, front half of the kidney and front half of the urinary bladder. Supplied with Torso teaching guide. Size: 87x38x25cm

MOI 1231 ③

HUMAN DUAL-SEX TORSO. A high quality full sized torso that can be used to answer all questions on human anatomy. Dissectible into 24 parts consisting of: 3 part head, female chest wall, 2 lungs, 2 part heart, 2 part stomach, liver with gall bladder, 4 part intestinal tract, front half of kidney, 3 part female genital insert with embryo, 4 part male genital insert, Supplied with Torso teaching guide. Size: 87x38x25cm

MOI 1233 ④



ANIMAL MODELS

SKULLS. Life size, plastic models with removable mandible.

- MOI 1280** ⑤ Cat skull
- MOI 1281** ⑥ Dog skull
- MOI 1282** ⑦ Rabbit skull
- MOI 1283** ⑧ Sheep skull



RAT DISSECTION. An ideal introduction to mammalian anatomy, which can be used in the classroom in place of some dissections. Clearly coloured, the model is male, life size and mounted on a plastic base. The heart and lungs, liver and stomach, and intestines are removable to show other internal organs. A key card with 5 detailed diagrams is supplied. Base size: 30 x 15cm.

MOI 1285



FLOWER MODELS

FLOWER MODEL. A greatly enlarged model to demonstrate the floral components and reproductive function of the flower. The petals, sepals and stamens are detachable and one anther is sectioned to show pollen grains. A pollen grain with pollen tube entering the ovary is shown. Mounted on a wooden base and supplied with key card. Size 43 x 36 x 25cm

MOI 1290 ①



DICOT LEAF. A section through a typical leaf, showing epidermis, palisade and spongy mesophyll, vascular bundle and stomata. Supplied with key card. Size 15 x 10 x 6cm

MOI 1292 ②

DICOT(Helianthus) STEM. The top surface of the model represents a transverse section of a wedge shaped sector of the stem and includes all the tissues from epidermis to pith. One entire vascular bundle is shown and half an adjacent one. The interfascicular tissues and vascular bundle are shown in longitudinal section. The outer surface represents a view of the epidermis with stomata. Supplied with a key card. Size 38 x 30 x 8cm

MOI 1294 ③



MOLECULAR MODELS - MOLYMOD

INTRODUCTORY SET. A basic introductory set designed to help students understand chemistry. Consisting of: **Spheres:** 12 Carbon, 7 Oxygen, 2 Nitrogen, 1 Sulphur, 6 Halogen and 20 Hydrogen. **Links:** 33 short grey, 12 long grey and 29 Hydrogen connectors. Packed in plastic box with instruction leaflet.

MOI 1301 ④

ORGANIC SET - Teacher. Designed to make models of most organic compounds in the G.C.S.E and Advanced level courses. Consisting of: **Spheres:** 24 Carbon, 12 Oxygen, 4 Nitrogen, 2 Sulphur, 12 Halogen, 3 Metal and 40 Hydrogen. **Links:** 60 short white, 55 medium grey and 25 long grey. Packed in a plastic box with instruction booklet.

MOI 1302 ⑤



ORGANIC and INORGANIC SET - Teacher. A versatile set suited to G.C.S.E. and Advanced level courses covering a comprehensive range of organic, inorganic molecules from simple ones to complex ions. Consisting of: **Spheres:** 6 Carbon, 22 Oxygen, 10 Nitrogen, 12 Sulphur, 8 Halogen, 14 Metal, 7 Phosphorous and 14 Hydrogen. **Links:** 50 medium grey and mauve, and 36 long grey. Packed in a plastic box with instruction leaflet.

MOI 1303 ⑥



ORGANIC SET - Student. Consisting of: **Spheres:** 12 Carbon, 6 Oxygen, 4 Nitrogen, 4 Halogen, 2 Sulphur, 1 Phosphorous, 1 Metal and 20 Hydrogen. **Links:** 26 short white, 26 medium grey and 10 long grey.

MOI 1305 ⑦

ORGANIC and INORGANIC SET - Student. Consisting of: **Spheres:** 6 Carbon, 6 Oxygen, 3 Nitrogen, 3 Sulphur, 5 Halogen, 9 Metal, 1 Phosphorous, and 14 Hydrogen. **Links:** 25 medium and 10 long.

MOI 1306 ⑧



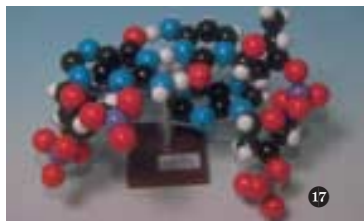
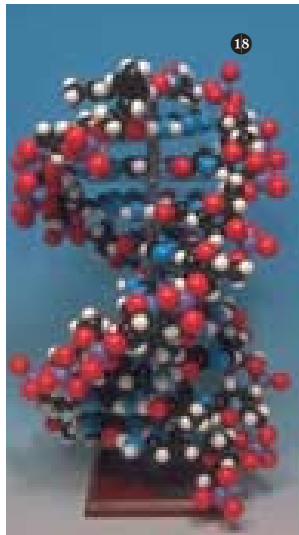
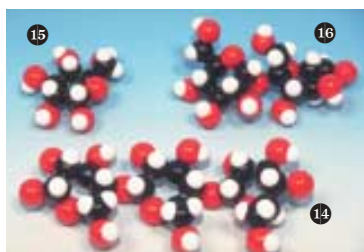
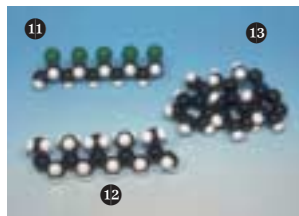
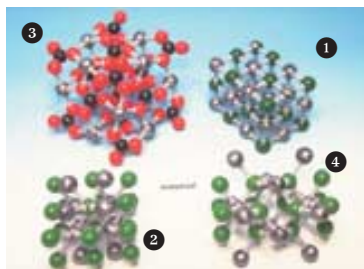
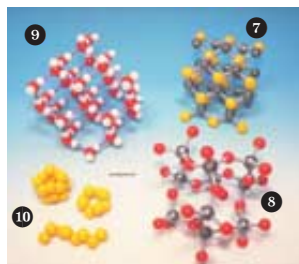
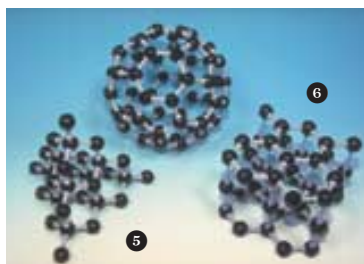
INDIVIDUAL MODELS (Molymod). These kits contain sufficient parts to make individual structures. They are supplied either pre-assembled (marked PA) or with self assembly instructions.

Crystal Structures:-

- MO20000 ① Sodium chloride
- MO20005 ② Caesium chloride (PA)
- MO20010 ③ Calcium carbonate (Calcite) (PA)
- MO20015 ④ Calcium fluoride (Fluorite) (PA)
- MO20020 ⑤ Diamond
- MO20025 ⑥ Graphite
- MO20030 ⑦ Buckminsterfullerene C60
- MO20035 ⑧ Zinc blende
- MO20040 ⑨ Quartz (PA)
- MO20045 ⑩ Ice
- MO20050 ⑪ Sulphur
- MO20055 ⑫ Copper, Iron & Zinc - set of 3 models (PA)

Organic Molecular Models:-

- MO20100 ⑬ Polyvinyl chloride (5 monomer units)
- MO20105 ⑭ Polypropylene (5 monomer units)
- MO20110 ⑮ Polystyrene (3 monomer units)
- MO20115 ⑯ Nylon-6,6 (2 monomer units)
- MO20120 ⑰ Glucose
- MO20125 ⑱ Sucrose
- MO20130 ⑲ Starch/cellulose
- MO20135 ⑳ Fat (Triglyceryl stearate)
- MO20140 ㉑ Alpha-helix (15 peptide groups)
- MO20145 ㉒ DNA - 2 layer (supplied with stand)
- MO20150 ㉓ DNA - 10 layer (supplied with stand)



MOLECULAR MODELS - ORBIT

BASIC STRUCTURES SET. For structures of sulphur, sodium chloride, diamond and graphite, metals, acids and bases, petroleum, soaps and detergents, nylon, water and ice, polymers, amorphous structures.

- MO30600 ⑲ Class Set (515 Atoms, 570 Bonds)
- MO30602 Individual Set (285 Atoms, 240 Bonds)

ORGANIC AND INORGANIC CHEMISTRY SET. For molecular shape of methane, butane and alkanes, isomerism, carbon compounds with multiple bonds, ring structures, molecules with nitrogen, phosphorous and sulphur, benzene, optical isomerism, sugars and carbohydrates, polymers, complex ions.

- MO30604 ⑳ Class Set (500 Atoms, 365 Bonds)
- MO30606 Individual Set (240 Atoms, 230 Bonds)

ORGANIC FOUNDATION SET. To make basic organic structures. Consisting of 70 Atoms and 180 Bonds.

- MO30608 ㉑



LATTICES SET. The 4, 6, 8 and 12 coordinate atom centres allow complex lattices to be built including: diamond, graphite, metals, sodium chloride, zinc blende and wurzite, 8 coordinate ionic structures, rutile, ice, layers.

- MO30610 ㉒ Class Set (380 Atoms, 500 Bonds)
- MO30612 ㉓ Individual Set (270 Atoms, 250 Bonds)



BIOCHEMISTRY SET. For Amino acids, monosaccharides, glycerol, fatty acids, steroids, purines and pyrimidines, peptides, disaccharides, lipids, nucleosides, nucleotides, proteins, polysaccharides, nucleic acid.

MO30614 Class Set (390 Atoms, 500 Bonds)

MO30616 Individual Set (255 Atoms, 310 Bonds)



INDIVIDUAL MODELS - ORBIT. For self-assembly, complete with instruction card.

MO30620 Diamond

MO30622 Graphite

MO30624 Carbon 60

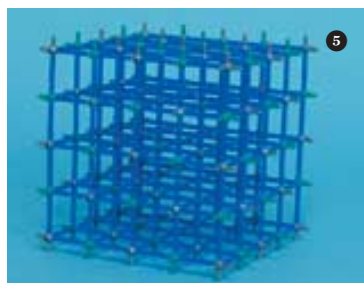
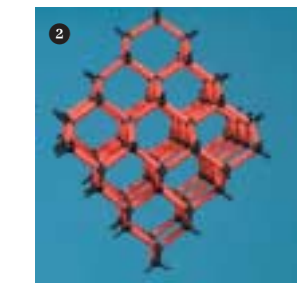
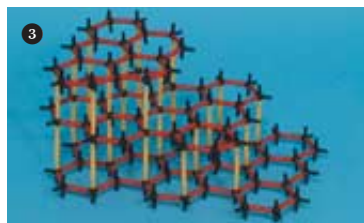
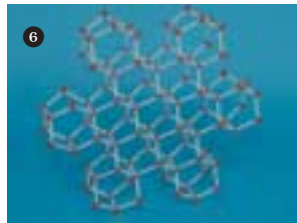
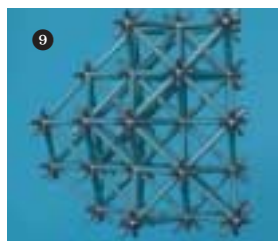
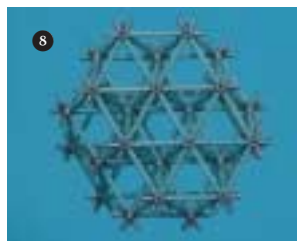
MO30626 Sodium Chloride

MO30628 Ice

MO30630 Iron

MO30632 Magnesium

MO30634 Copper



DNA - RNA MODEL. The model shows DNA and transcription of RNA. Height approx 50cm. Complete with stand, instructions and model description.

MO30640



MORTARS AND PESTLES

MORTAR & PESTLES. Glass.

	Dia.
MOI 1320	80mm
MOI 1325	100mm
MOI 1330	150mm

MORTARS & PESTLES. Porcelain. Glazed with unglazed grinding surfaces.

	Dia.
MOI 1335	80mm
MOI 1340	100mm
MOI 1345	130mm
MOI 1350	160mm

Spares:-

MOI 1336	Pestle for 80mm mortar
MOI 1341	Pestle for 100mm mortar

MORTAR & PESTLES. Porcelain. Unglazed with wooden handled pestle.

	Dia.
MOI 1352	75mm
MOI 1353	100mm
MOI 1354	135mm



OPTICAL EQUIPMENT

LENSES

LENSES, BICONCAVE. 38mm dia. Optically worked glass with ground edges.

	Focal Length
OPI 1405 ¹	100mm
OPI 1410	150mm
OPI 1415	200mm
OPI 1425	300mm
OPI 1427	500mm

LENSES, BICONCAVE. 50mm dia. Optically worked glass with ground edges.

	Focal Length						
OPI 1435 ²	50mm						
OPI 1440	100mm						
OPI 1445	150mm						
OPI 1450	200mm </tr <tr> <td>OPI 1455</td> <td>250mm</td> </tr> <tr> <td>OPI 1460</td> <td>300mm</td> </tr> <tr> <td>OPI 1465</td> <td>500mm</td> </tr>	OPI 1455	250mm	OPI 1460	300mm	OPI 1465	500mm
OPI 1455	250mm						
OPI 1460	300mm						
OPI 1465	500mm						

LENSES, BICONVEX. 38mm dia. Optically worked glass with ground edges.

	Focal Length
OPI 1505 ³	100mm
OPI 1510	150mm
OPI 1515	200mm
OPI 1525	300mm
OPI 1530	500mm

LENSES, BICONVEX. 50mm dia. Optically worked glass with ground edges.

	Focal Length
OPI 1540 ⁴	50mm
OPI 1545	100mm
OPI 1550	150mm
OPI 1555	200mm
OPI 1560	250mm
OPI 1565	300mm
OPI 1570	500mm

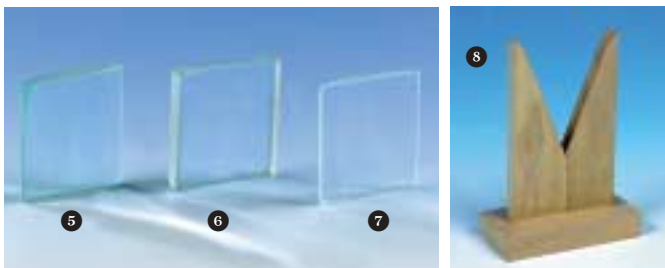


LENSES, CYLINDRICAL. Glass, polished faces and ground edges
50mm high x 45mm wide. Focal length 75mm.

	Type
OPI 1600 ⁵	Biconvex
OPI 1605 ⁶	Biconcave
OPI 1608 ⁷	Planoconvex

LENS HOLDER. Wood with 'V' slot to hold lenses up to 80mm diameter.

OPI 1620 ⁸



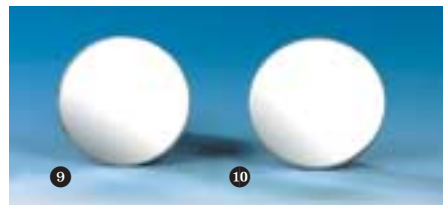
MIRRORS

MIRRORS CONCAVE. Spherical, optically worked glass, heavily silvered with protective coating. Unmounted. 50mm Dia.

	Focal Length
OPI 1625 ⁹	75mm
OPI 1630	100mm
OPI 1635	150mm
OPI 1640	200mm
OPI 1645	300mm

MIRRORS CONVEX. Spherical, optically worked glass, heavily silvered with protective coating. Unmounted. 50mm Dia.

	Focal Length
OPI 1650 ¹⁰	75mm
OPI 1655	100mm
OPI 1660	150mm
OPI 1665	200mm
OPI 1670	300mm



CIRCULAR PLASTIC MIRROR. A range of high quality plastic mirrors available in concave and convex forms or as a double sided combination mirror.

	Type	Dia(mm)
OPI 1680 ¹¹	Concave	300
OPI 1681	Concave	460
OPI 1682	Concave	610
OPI 1683	Convex	300
OPI 1684	Convex	460
OPI 1685	Convex	610
OPI 1686	Combination	300



MIRROR, PLAIN. Glass, unmounted. Silvered back with protective coating.

OPI 1700 ¹²	75 x 25mm
OPI 1702	75 x 50mm
OPI 1704 ¹³	100 x 50mm
OPI 1710	150 x 50mm
OPI 1715	100 x 75mm
OPI 1720	150 x 100mm
OPI 1722	50mm dia.



MIRRORS, PLASTIC. Flexible. Can be cut with scissors or sharp knife.

- OP11724** ① Double sided Size: 75 x 25mm
OP11726 ② Double sided Size: 300 x 200mm
OP11729 ③ Double sided Size: 150 x 100mm
OP11730 ④ Concave/convex Size: 100 x 100mm



SELF ADHESIVE A4 PLASTIC MIRRORS. Ideal for all kinds of optical experiments. High quality mirror finish, protected by a peel off film. These mirrors can be bent and easily cut with scissors.

OP11732

GEOVIEW, SYMMETRY MIRROR. Consisting of a large tinted perspex screen 150 x 100mm with side supports. Ideal for work on shape and symmetry and also for measuring distance from screen to the object and to the image. In boxes of 10 Geoviewers complete with laminated notes.

OP11733 ⑤



MIRROR, STAINLESS STEEL. Semi-circular mirrors.

Size: 150 x 75mm high

- OP11735** ⑥ Concave Mirror
OP11736 Convex Mirror

PRISMS

PRISMS, EQUILATERAL. Clear white glass. 60° x 60° x 60°. Dimensions stated are length of triangle side x height.

- OP11740** ⑦ 38 x 38mm
OP11750 50 x 50mm

PRISMS, RIGHT ANGLED. Clear white glass 90° x 45° x 45°. Dimensions stated are length of side x height.

- OP11756** ⑧ 38 x 38mm
OP11758 50 x 50mm

GLASS BLOCK, RECTANGULAR. Optical quality glass block for refractive experiments. Size 114 x 63 x 18mm.

OP11785 ⑨



OPTICAL PINS. Nickel plated steel 51mm long, in packs of 100.

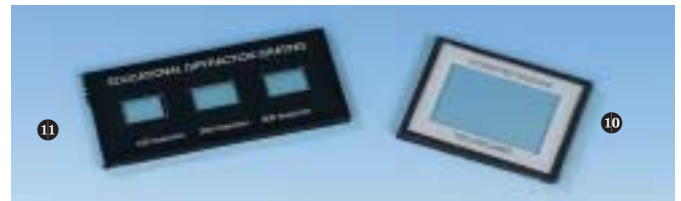
OP11788

DIFFRACTION GRATINGS. Mounted in 50 x 50mm slide holders.

- OP11790** ⑩ 80 lines/mm
OP11791 100 lines/mm
OP11792 300 lines/mm
OP11793 600 lines/mm

DIFFRACTION GRATINGS SLIDE. Set of 3 gratings 96, 300 and 600 lines/mm mounted on a single slide 90 x 30mm with three 16 x 19mm apertures.

OP11795 ⑪



OPTICAL BENCH. Providing all the requirements in one kit for a whole range of optical experiments. This modern design of a traditional piece of apparatus simplifies experiments with lenses, focal length, curvature of mirrors, lens combinations and interference patterns.

Comprising of: Triangular, extruded aluminium alloy bench, 2M long with easy to read scale, 2 adjustable feet and is supplied complete with the following accessories:- 6 sliding saddles with mounting screws, 4 mounted convex lens 50mm, 100mm, 150mm, 200mm focal length 55mm diameter, 1 concave lens 100mm focal length 55mm diameter, 1 lamp housing with 25W halogen lamp, 4 stops, 1 grid objective, 1 white screen and 1 needle object.

OP11798 ⑫



OPTICS KIT. This ultimate light and optics kit provides everything which is required to cover reflection, refraction, colour mixing, absorption and ray optics. Consisting of: ray box, glass mirror, colour filters, triple colour slide, spare festoon bulb, white screen with mm scale, round protractor/compass, fluid trough, set of acrylic blocks, convex and concave lenses, acrylic strips in amber, black and clear cardboard strip. Complete with a purpose designed storage box.

OP20510

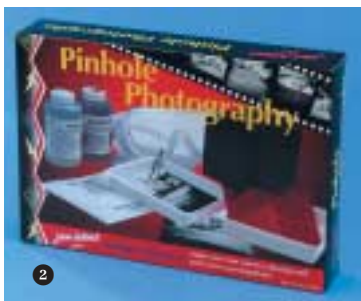


FIBRE OPTICS KIT. Thoughtfully compiled equipment and assignment sheets guide young children through their experiments with reflection and refraction, leading to an understanding of how an optic fibre works. Easy to digest background notes, curriculum related information and a step by step guide to assessment are included.

OP20515 ①

PINHOLE CAMERA KIT. Make up the camera, take, develop and print up to 12 snapshots. The kit contains everything needed including full instructions.

OP20520 ②



RAY BOXES

RAYMOND RAY BOX. An inexpensive raybox designed specifically for Primary and lower Secondary use. The raybox is housed in an ABS case with fixed slits - one single slit and one set of triple slits allowing two groups to work simultaneously. Raymond also has in-built primary colour filters which, with the use of two plane mirrors, allow the overlapping colour mixing discs to be projected. Operates on 6V a.c. or d.c.

Comes complete with two plane mirrors and a spare lamp.

OP11802 ③ **Raymond the Ray Box**
OP11803 **Spare bulb**

BUDGET RAY BOX. A robust ray box, featuring a ventilated metal lamp housing manufactured from 20swg, powder coated steel. The unit comes complete with fixed slits - one single slit and two sets of triple slits, allowing three groups to work simultaneously. The light source comprises a 12V, 21W, S.B.C. lamp with a vertically aligned filament. Fitted with IM of twin flex terminated with 4mm plug.

OP11806 ④ **Budget Ray Box**
OP11807 **Spare Bulb**



RAY BOX. A ventilated metal lamp house having an open front with extended finned sides and vertical internal grooves. The light source comprises of a 12V S.B.C. lamp in holder with IM of twin flex. Complete with metal plate having single and triple slits, one side matt black, the other white.

OP11808 ⑤ **Ray Box**
OP11809 **Spare Slit Plate. Metal.**
OP11807 **Spare Bulb 12V 21W**
EL06677 **Spare Bulb 12V 24W - Vertical Filament**
EL06563 **Spare Lamp Holder**

RAY BOX KIT. An exceptional value ray box made from aluminium and houses a slide out carrier which accommodates the following: 1 x single slit, 1 x double slit, 1 x triple slit, 1 x wide slit, 1 x collimate lens, 1 pack colour filters and 1 x triple colour slide. All the above components are supplied with the ray box. Supplied with twinflex cable terminated with 4mm plugs.

OP20550 ⑥ **Ray Box Kit**
OP20555 **Spare Bulb 12V 10W festoon**



ACRYLIC BLOCKS. Clear acrylic blocks 10mm thick (except OPI1810 which is 18mm) with all round polished surfaces.

- OPI1810 Rectangular Block 115 x 65mm
 OPI1815 Biconvex Lens 75(L) x 115mm(Radius).
 OPI1820 Biconcave Lens 75(L) x 115mm(Radius).
 OPI1825 Semi-circular Block 75mm(Dia).
 OPI1835 Equilateral Prism 75mm sides 60°x 60°x 60°.
 OPI1840 Triangular Prism 108 x 75mm 90°x 45°x 45°
 OPI1845 Lens Kit. Set of the above 6 lenses

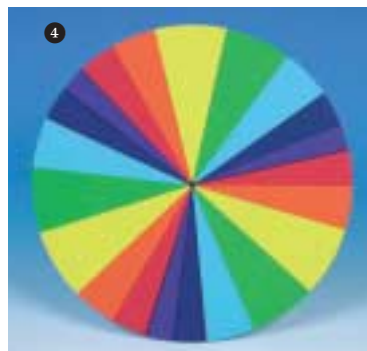


ACRYLIC BLOCKS. Clear acrylic blocks 25mm thick.

- OPI1860 Rectangle 75 x 50mm
 OPI1861 Biconcave 75mm long x 115mm radius
 OPI1862 Biconvex 75mm long x 115mm radius
 OPI1863 Semicircular 75mm dia.
 OPI1864 Equilateral 60° x 60° x 60° x 57mm sides
 OPI1865 Triangular 90° x 45° x 45° x 75mm hypotenuse
 OPI1866 Triangular 90° x 60° x 30° x 75mm hypotenuse
 OPI1867 ① Box set of the above 7 blocks

S-SHAPE BLOCK. Acrylic block approx 220 x 20 x 20mm in the form of a shallow S-Shape, ideal for demonstrating total internal reflection.

OPI1870 ②



COLOUR FILTERS, ACETATE in sheets 304 x 254mm.

OPI1872 ③ Set of 5: Red, Blue, Yellow, Green and Orange

COLOUR FILTERS, Mounted. Set of 6 coloured gelatine film filters 50 x 50mm mounted in card. Consisting of: Red, Deep Blue, Magenta, Green, Yellow and Peacock Blue.

OP20580

NEWTON'S COLOUR DISC. For demonstrating that white light may be composed from all the spectral colours by rotation of the multi-coloured disc. Diameter of disc 200mm.

OP20582 ④

POLARISING FILTERS. High quality film, polarising filters in 35mm rigid plastic mounts. In packs of 10 complete with teachers notes.

OP20584 ⑤

COLOUR PADDLES. A set of 15 paddles in 3 primary colours - Red, Blue and Yellow. Overlapping them will produce the 3 secondary colours - Violet, Green and Orange.

OPI1874 ⑥



GIANT ACRYLIC PRISMS. Ideal for both experimentation and demonstration. They are 25mm thick and are precision made from optical grade acrylic.

- OPI1876 ⑦ Equilateral Prism, 180mm sides
 OPI1877 Isosceles Prism, 180mm hypotenuse
 OPI1878 Rectangular Prism. 180x125mm



LASERS

LASER, POINTER. A superb Class II laser pointer for lectures and demonstrations. Powered by 2 x AAA batteries (supplied)

OPI1882 ⑧



DEMONSTRATION LASER. A compact, portable Class II laser in a strong ABS case with a key on/off switch.

Powered by AA cells or mains adapter (both supplied). Range approx 50M

OPI1884 ⑨

DEMONSTRATION LASER. A semi-conductor laser for demonstrations of refraction, diffraction, coherent light, Young's slits diffraction, holography etc. The unit is housed in a robust ABS case and comes complete with lead and moulded mains plug and on/off is via a lockable keyswitch. The Class 2 laser element (< 1mW) makes it ultra-safe for classroom use. Approx range 50M.

OPI 1885 ①

SPECTROSCOPE, DIRECT VISION. For rapid examination of spectral composition of white light. Consisting of a metal tube with draw out focussing and an adjustable slit fitted with achromatic objective glass and 3 element prism.

OPI 1887 ②



RIPPLE TANK. For demonstration or small group work, generating straight & circular wave forms. Complete with all the accessories required to perform investigations and experiments into reflection, refraction and interference effects. This latest design benefits from the availability of modern materials and manufacturing techniques. A low voltage power source is required for illumination and the propagation of waves which ensures safety in operation. The tank is formed from a tough plastic surround with a perspex base and incorporates a 'Beach' feature around the edge to eliminate any unwanted reflections.

Specifications: 1 ripple tank 412mm x 412mm complete with legs and lamp support, 1 rippler bar with motor and support, 2 spherical plastic dippers to fit rippler bar, 4 spare elastic bands to support rippler bar, 1 hand stroboscope, 1 12V halogen lamp in support, 1 convex, 1 concave and 1 rectangular 'prism', 1 curved reflector, 1 small and 2 large barriers.

OPI 1890 ③



STROBOSCOPE. A variable speed xenon strobe light housed in a robust steel case with protective safety lens and adjustable mounting bracket/bench stand. Size: 125 x 85 x 55mm. For 220/240V.

OPI 1895 ④

Stroboscope

OPI 1896

Spare tube (model TB1065)

HAND STROBOSCOPE, SIMPLE. A black hardboard disc, 255mm dia. with 12 50x3mm slots and finger hole, pivoted on a ball bearing mount which acts as a handle.

OPI 1898 ⑤

OVENS

OVENS - A range of ovens suitable for drying and sterilising. The interior is of mild steel with aluminium cladding, with fixed shelf runners and two removable chrome plated steel wire shelves. The thermostat is direct reading and fitted with a dial locking device. Temperature range: 40°C to 250°C. Fluctuation: $\pm 0.75^\circ\text{C}$. For use on 220/240V.

OVEN - 20LT. Capacity: 20Lt. Rating: 500W. Shelf positions: 2. Int. dimensions: 275 x 275 x 275mm (H x W x D)

OVI 1900

OVEN - 30LT. Capacity: 30Lt. Rating: 750W. Shelf positions: 3. Int. dimensions: 305 x 315 x 315mm (H x W x D).

OVI 1905

OVEN - 40LT. Capacity: 40Lt. Rating: 1000W. Shelf positions: 3. Int. dimensions: 404 x 315 x 315mm (H x W x D).

OVI 1908

OVEN - 50 LT. Capacity: 50Lt. Rating: 1000W. Shelf positions: 3. Int. dimensions: 325 x 490 x 315mm (H x W x D).

OVI 1910

OVEN - 75LT. Capacity: 75Lt. Rating: 1250W. Shelf positions: 3. Int. dimensions: 330 x 490 x 460mm (H x W x D).

OVI 1912



PAPER

SURFACE SAVER 'Timstar'. White absorbent paper backed with an impermeable layer of polyethylene to protect bench tops against spillages.

PAI 1945

Surface Saver sheets 46 x 57cm

PAI 1946

Surface Saver rolls 46cm x 50M

BENCHKOTE ABSORBENT PAPER 'Whatman'. White absorbent paper backed with an impermeable layer of polyethylene to protect bench tops against spillages.

PAI 1950

Benchkote in sheets of 57 x 46cm

PAI 1955

Benchkote in reels 50M x 46cm.

PAPER, CERAMIC FIBRE. Heat resisting paper, 1mm thick. In sheets 1000 x 500mm.

PAI 1957

TEST PAPERS - See **Chemical Section** Page 214

PETRI DISHES

PETRI DISHES. Resistance glass.

	Dia. & Depth
PE11995 ①	60 x 12mm
PE11996	80 x 15mm
PE11997 ②	90 x 15mm
PE12000	100 x 15mm
PE12001	120 x 20mm



PETRI DISHES. Disposable, Sterile, clear polystyrene.

	Dia. x Depth	
PE12030 ③	50 x 13mm	PE12031
PE12035 ④	90 x 15mm	PE12036

PETRI DISHES. Disposable, Sterile, clear polystyrene, with treated surface to ensure reproducible cell growth and adhesion. 100 x 20mm.

PE12040

PETRI DISHES. Disposable, Sterile, clear polystyrene. 90mm dia. sub-divided into equal parts.

PE12045 ⑤	2-Parts
PE12050 ⑥	3-Parts



PETRI DISH STERILISING BOX. For petri dishes up to 100mm dia. Height x Diameter 255 x 115mm.

PE12060 ⑦	Aluminium Box
PE12065	Stainless Steel Box



pH METERS

HANNAH PH METERS

pH CHECKER. A robust inexpensive LCD pH tester, supplied with a replaceable combination electrode, batteries and instructions. Calibration is 2 point at pH 4/10 or pH7 using a small calibration screwdriver.

Range 0 to 14 x 0.01 pH. Battery life is approx: 3000hrs.

PH12165 ⑧	pH Checker
PH12166	Replacement electrode

pH TESTERS 'PHEP'. Three hand held waterproof L.C.D. pH Meters with a range of 0 to 14 x 0.1pH, which provide instant measurements in a tough plastic case. Ideal for use in the field or laboratory. Size: 148 x 28 x 15mm. Battery life approx 1000 hours.

PH12167 ⑨	PHEP1 Accuracy ± 0.2 pH
PH12168	PHEP2 with A.T.C. Accuracy ± 0.1 pH



pH TESTERS. A compact, waterproof pocket meter with a dual display showing pH and $^{\circ}\text{C}$. Both meters have A.T.C., auto shut off (after 8 mins), automatic 1 or 2 point calibration and have a replaceable pH electrode.

Size: 163x40x26mm. Supplied with batteries

PH20690 ⑩	Pocket tester range: pH 0.0 to 14.0
	Temp: 0.0 to 60.0 $^{\circ}\text{C}$
PH20695	Pocket tester range: pH 0.00 to 14.00
	Temp: 0.0 to 60.0 $^{\circ}\text{C}$
PH20698	Spare electrode

BATTERIES, MERCURY CELL, 1.4V for pH Checker and Testers

PH12175

pH METERS. 'The Piccolo', a robust pocket pH Meter which gives the same accuracy as a laboratory bench Meter. Range of 1 to 13.00 x 0.01pH with an accuracy of ± 0.01 pH. Automatic temperature compensation for 0 - 70 $^{\circ}\text{C}$. Powered by 3 x 1.4V batteries. Size 172 x 29 x 15mm. Supplied with a combination electrode, batteries, 2 small bottles of buffer solution (pH 4 & 7), a small screwdriver for calibration and a carrying case.

PH12176 ⑪	Piccolo pH Meter with 90mm electrode
PH12178	Piccolo 2 pH Meter with 160mm electrode

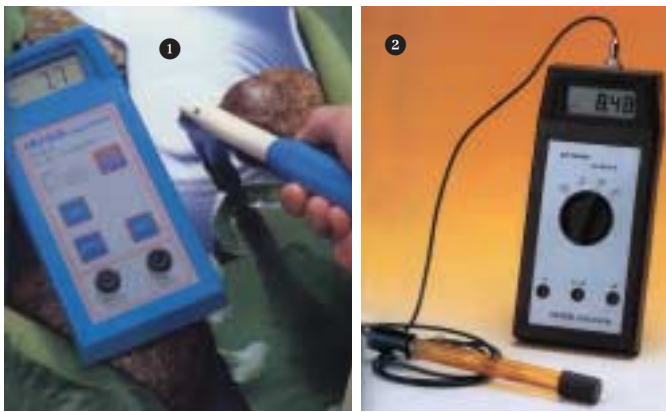


HI 9812 pH/CONDUCTIVITY METER. A hand-held meter to measure both pH and Conductivity using just one probe. Simply press a button to change from pH to ppm, and $\mu\text{S}/\text{cm}$ without the need to change probes. Ideal for water analysis this low cost meter is robust and simple to use with a large LCD display. Meter reads 0-14pH, 0-1990 $\mu\text{S}/\text{cm}$, and 0-1990 ppm. Accuracy $\pm 0.2\text{pH}$, $\pm 2\%$ for both conductivity ranges. Calibration is at one point for both pH & Conductivity. Size: 185 x 82 x 45mm. Supplied with Probe, 9V battery and calibration solutions.

PH20700 ① HI9812 Combination Meter
PH20702 HI1285 Spare pH/Conductivity/TDS Probe

HI 8014 pH/mV METER. A portable robust pH Meter with large LCD which is ideal for education. Single dial to select off/°C/pH and mV. Calibration can easily be adjusted to any pH value. Manual temperature compensation (0-100°C). Ranges: 0 to 14 x 0.01 pH and 0 to 1999 x 1mV. Accuracy: $\pm 0.01\text{pH}$ and $\pm 1\text{mV}$. Size: 180 x 83 x 40mm. Powered by 1 9V battery. Supplied complete with double junction plastic body combination electrode, battery and instructions.

PH12179 ② HI 8014 pH Meter



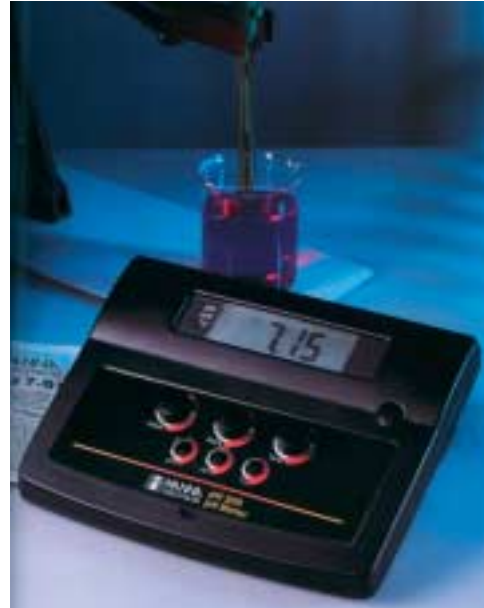
HI 8424 pH METER. A hand held pH/mV/°C Meter using the latest membrane keyboard technology, with Automatic Temperature compensation and automatic push button Calibration. Range 0.00 to 14.00 x 0.01pH, 0 to ± 1999 x 1mV, 0.0 to 100.0 x 0.1°C Accuracy $\pm 0.01\text{pH}$, $\pm 1\text{mV}$ and $\pm 0.4^\circ\text{C}$. Size 180L x 83W x 46Hmm. Complete with double junction refillable plastic body combination electrode, stainless steel temperature probe, instructions and battery in a soft carrying case.

PH12182 HI 8424 pH Meter



PH 209 pH/mV BENCH METER. A low cost educational bench pH meter ideal for student use. Measuring pH and millivolts on a large horizontal display, the HI209 has manual two-point calibration, and manual temperature compensation from 0-100°C. The meter is supplied complete with a double junction pH electrode, power cable and three-year guarantee. Ranges: 0.00-14.00pH, $\pm 1999\text{mV}$, accuracy: $\pm 0.01\text{pH}$, $\pm 1\text{mV}$.

PH20710 PH209 Bench Meter



PH 213 pH BENCH METER. A microprocessor bench pH meter offering all the requirements for a modern instrument. The meter reads pH, mV, and Temperature on a large LCD screen. Reading to 0.001pH, the HI213 has automatic temperature compensation, and auto calibration at 1 or 2 points with a choice of five memorised buffers. The calibration instructions are printed on the front panel, and the LCD prompts the user through the pH calibration. Simultaneous display of pH (or mV) and temperature with stability indicator on the display. A memory button for single reading is also featured and the meter can be connected to a PC via an RS232 connector. Ranges: -2.00 -16.000 pH, $\pm 999.9\text{mV}$, 0-100°C. Accuracy: $\pm 0.002\text{pH}$, $\pm 0.05\%$ mV, $\pm 0.5^\circ\text{C}$. Size: 240 x 182 x 74mm. Supplied with a three-year guarantee, pH double junction glass electrode, temperature probe, electrode holder, buffer sachets, electrolyte and mains power lead.

PH20720 PH213 Bench Meter



CALIBRATION KIT. Ideal for use with pH testers comprising of 5 sachets of each pH.

PHI2190	pH4 and pH7
PHI2191	pH7 and pH10



ELECTRODES, Hanna Classic. Compatible with most pH Meters. Size: 120 x 12mm on 1M lead. All electrodes are supplied complete with a 460ml bottle of cleaning solution - **FREE OF CHARGE.**

COMBINATION ELECTRODE - Plastic bodied. Robust, double junction gel filled electrode with a temperature range 0 to 80°C.

PHI2192	pH electrode with BNC connector
PHI2193	pH electrode with CO-AX connector
PHI2194	pH electrode with S7 screw fitting

COMBINATION ELECTRODE - Glass bodied. A high performance, single junction, refillable electrode with a temperature range - 5 to 100°C.

PHI2195	pH electrode with BNC connector
PHI2196	pH electrode with CO-AX connector
PHI2197	pH electrode with S7 screw fitting

ELECTRODE CLEANING & STORAGE SOLUTIONS 'Hanna'

PH25000	pH Cleaning Solution
PH25010	pH Storage Solution

ELECTRODE HOLDER, Hanna. Cantilever stand, spring loaded with a large enamel coated steel base. Holds upto 3 electrodes in any position.

PHI2198	HI 76405 Electrode holder
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TURTLE pH LOGGER. A computer interface that turns your PC into a pH meter. The pH Turtle has easy to use Windows® software that controls all the functions and allows the user to log and graph results. Calibration can be at 1, 2 or 3 points through the PC. Min-Max alarms can be set to give either a visual or audible alarm. Temperature compensation is manual. Range 0.0 to 14.0pH. Size: 80mm dia. Supplied complete with pH electrode, amplifier, Windows® Software and 1M cable with RS232 connector.

PH25020	pH Turtle
PH25022	Spare Electrode HII333B



PIPETTES

ONE MARK BULB PIPETTES. Class B. to BS 1583.

	Capacity
PHI2200 ①	1ml
PHI2205	2ml
PHI2210	5ml
PHI2215	10ml
PHI2220	20ml
PHI2225	25ml
PHI2230	50ml
PHI2235	100ml

ONE MARK BULB PIPETTES. Class A. to BS1583.

	Capacity
PHI2250 ①	5ml
PHI2255	10ml
PHI2260	25ml
PHI2265	50ml



GRADUATED PIPETTES. Class B to BS 700. Calibrated to deliver from zero at the top to any graduation mark. Type I.

	Capacity	Sub-divided
PHI2300 ②	1ml	0.01
PHI2305	2ml	0.02
PHI2310	5ml	0.05
PHI2315	10ml	0.10
PHI2320	25ml	0.20

GRADUATED PIPETTES. Class B. to BS 700. Calibrated to deliver from any graduation mark to the jet. Type II.

	Capacity	Sub-divided
PHI2330 ③	1ml	0.01
PHI2335	2ml	0.02
PHI2340	5ml	0.05
PHI2345	10ml	0.10
PHI2350	25ml	0.20



SAFETY GRADUATED PIPETTES. An all glass pump action pipette.

	Capacity	Sub-divided
PHI2360 ④	1ml	0.01
PHI2361	2ml	0.02
PHI2362	5ml	0.05
PHI2363	10ml	0.10
PHI2364	25ml	0.10

DROPPING PIPETTE. Polyethylene. One piece with integral bellows.
Capacity 4ml. Stem length 125mm.

PII2380 ①

DROPPING PIPETTES, Glass, complete with teat, 75mm long.

PII2384 1ml graduated
PII2385 ② 1ml ungraduated
PII2386 Spare teat



PIPETTES, PASTEUR.

Glass disposable. Precision made with accurately controlled jet diameter for nominal 30 drops per ml. Constricted for cotton plugging.

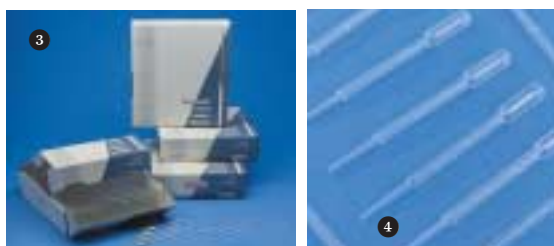
PII2400 ③ Length 145mm
PII2405 Length 230mm

DISPOSABLE PIPETTES. Graduated Plastic Pasteur Pipette.

	Capacity
PII2409	1.0ml
PII2410	1.0ml
PII2414 ④	3.0ml
PII2415	3.0ml

SEROLOGICAL PIPETTES. Disposable for blow-out delivery.

	Capacity	Sub-divided
PII2420	1ml	0.01
PII2425	1ml	0.10



PIPETTE FILLERS

PIPETTE CONTROLLER. For simple one-handed operation. Accepts pipettes from 0.1 to 20ml capacity. Can be used for repetitive volumes, serial delivery, fractional delivery or even as a filtration unit, two sizes available.

PII2430 ⑤ For 0.1 to 2.0ml
PII2435 For 2.0 to 20ml

PIPETTE FILLER P.V.C. The three control pads are within finger reach without removing the palm of the hand from the bulb. Aspiration and dispensing can be achieved quickly and with great accuracy. Ideal for pipetting noxious or offensive liquids and is resistant to attack from most chemicals.

PII2440 ⑥ Red
PII2445 Black

PIPETTE FILLER 'PI-PUMP'. An acid resistant plastic instrument which is easily dismantled for cleaning. It allows filling and dispensing from all standard pipettes up to 25ml. Simple and easy to use with finely adjustable thumb wheel, and release valve lever.

	Capacity	Colour
PII2450 ⑦	2ml	Blue
PII2455 ⑧	10ml	Green
PII2460 ⑨	25ml	Red

Spares:

PII2462 Spare pipette chuck fits all sizes

— Full range of spares available - please contact our Sales Dept.



DIGITAL ULTRA MICRO-PIPETTERS, for accurately dispensing small volumes of liquid. Volume adjustment is by the rotation of the operating button, governed by a 'click-stop' mechanism for precise adjustment. The pipettors have replacement polypropylene tips.

	Volume Range gL.
PII2470 ⑩	5 - 50
PII2471	10 - 100
PII2472	20 - 200
PII2473	50 - 500
PII2474	100 - 1000

MICRO PIPETTER TIPS. Non-sterile, disposable.

	Capacity gL	Type	Colour
PII2475	1-200	Gilson	Yellow
PII2476	100-1000	Eppendorf	Blue
PII2477	1000-5000	Gilson/Oxford	White

'ECO' AUTOMATIC PIPETTES. A fully variable easy to use automatic pipette with tip ejector.

	Volume Range
PII2480 ⑪	0.1 to 1.0ml
PII2481	0.5 to 5.0ml
PII2482	1.0 to 10.0ml

TIPS FOR 'ECO' AUTOMATIC PIPETTES.

	Capacity	Pack Size
PII2490	1ml	50
PII2491	5ml	25
PII2492	10ml	25



PIPETTE TEATS /BULBS

BULBS, P.V.C. - PEAR SHAPE.

For use with pipettes with 5mm diameter neck.

	Bulb Dia.
PII2495 ①	34mm
PII2496	43mm
PII2497	58mm

TEATS, RED RUBBER. For dropping pipettes.

	Capacity
PII2500 ②	1.5ml
PII2505	2.0ml
PII2510	2.75ml
PII2515	5.0ml

P.V.C. TEATS. Non-roll. Moulded in red PVC. Ideal for Pasteur Pipettes.

PII2520 ③ PII2521

PIPETTE STERILISING BOXES. Cylindrical for holding pipettes vertically for autoclaving with lid. In either aluminium or stainless steel. Size 457 x 64mm dia.

PII2530 ④ Aluminium
PII2531 Stainless steel



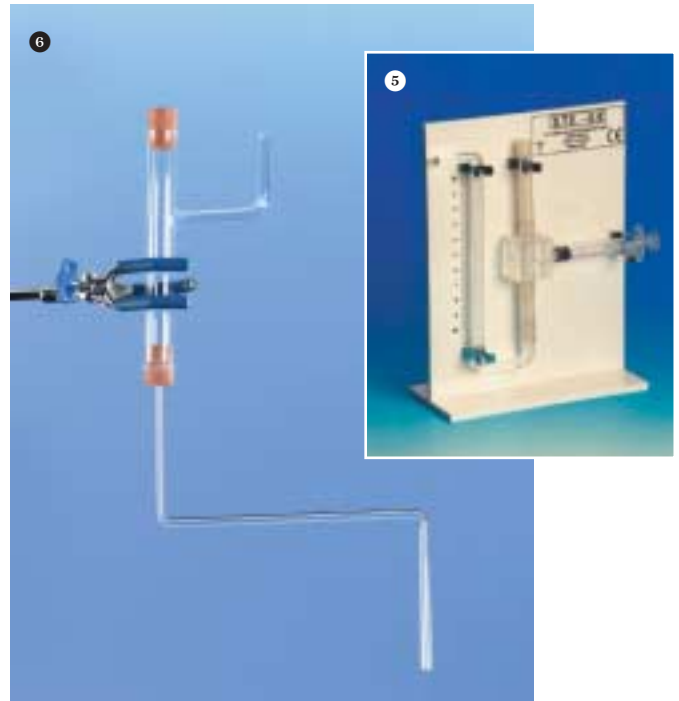
PLANT BIOLOGY

POTOMETER. For investigating the uptake of water and transpiration of a cut shoot. The apparatus can be submerged in a basin of water while the cut stem is mounted. The graduated capillary tube is 100mm long with a 1mm bore. Mounted on a stand size 140 x 85 x 65mm.

PL43500 ⑤

POTOMETER, DARWIN. Supplied complete with rubber stoppers, scale and capillary tubing

PL43505 ⑥



POTOMETER, FARMER. Consisting of a narrow bore glass tube with scale 0 to 300 x 1mm, wide mouth bottle, dropping funnel and 3 hole rubber stopper to connect the glassware. The third hole is to take the stem of the plant.

PL43510 ⑦



**GARDEN
TOOLS, COMPOST
ETC**

See pages 82 - 83

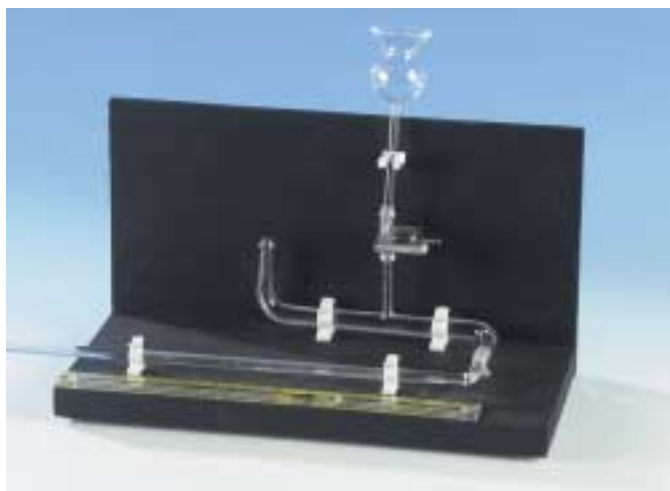
POTOMETER, GANONG. Consisting of a graduated narrow bore glass tube fitted with a vessel to take a plant shoot at one end and funnel with glass stopcock mounted vertically. Complete with wooden stand.

PL43515



POTOMETER, THODAY. Consisting of a glass tube with one end open to take a plant shoot and the other attached by rubber tubing to a narrow bore glass tube with scale. The vertical limb on the glass tube is attached to a funnel by rubber tubing fitted with a screw clip. Mounted on a wooden stand.

PL43520



MICROBURETTE. For the measurement and collection of gas given off by Aquatic plants. The plant is placed into the bottom end of a graduated tube (0 to 150mm) and the other end is fitted with a piece of rubber tubing, screw clip and syringe for drawing off the collected gas.

PL43525



PHOTOSYNTHESIS APPARATUS.

For the measurement and collection of gas evolved by Aquatic plants during photosynthesis. The gas evolved can be measured by the calibrated capillary tube and drawn off for analysis by the plastic syringes. Mounted on a plastic panel 190 x 150mm

PL43530

MURASHIGE and SKOOG MEDIUM. A clear gel to which extra nutrients can be added for a variety of experiments where plant roots are visible as well as the shoots. Supplied in a powdered form to make up 1Lt.

PL43535

PLANT TISSUE CULTURE SET I

This set is used to demonstrate the techniques and potential of plant tissue culture. The materials and instructions provided allow students to:—

- culture carrot seedlings aseptically
- grow a callus — an unorganised cell mass
- initiate a suspension culture
- develop many new plantlets from a portion of callus — totipotency and cloning

PL43540

PLANT TISSUE CULTURE SET 2

This extends the topics of set 1 by showing the effects of hormones, auxins and kinetin upon shoot, root and callus growth. The materials and instructions provided allow students to

- grow tobacco seedlings aseptically
- initiate a callus
- induce root and shoot development

PL43545

PLANT CULTURE KIT

Carefully formulated plant culture media are added to purified water to provide all of the elements needed for satisfactory plant growth.

A set of 8 x 10 mineral deficiency reagent tablets, each tablet making 250ml, to Sach's formula is provided. These comprise a normal control plus seven formulations deficient in nitrogen, phosphorous, sulphur, calcium, potassium, magnesium and iron respectively.

A second set of 9 tubes of powder, each making 2 litres, to the Long Ashton formula which includes trace elements missing from the Sach's formula, is also provided. These comprise deficiencies as in the Sach's set, together with a sodium deficient formulation.

Finally, the kit contains 10 tubes making 10 litres each and 100 tablets making 250ml each of Hoagland formula plant culture solution. Supplied with instructions.

PL43550

SACH'S WATER CULTURE

Water culture (mineral deficiency) tablets set, Sach's formula, 8 tubes of 10 tablets, each making 250ml.

PL43555

LONG ASHTON WATER CULTURE

Water culture (mineral deficiency) reagent set, Long Ashton formula, 9 tubes each making 2 litres.

PL43560

PLATES

PLATES. White Ceramic. approximately 6mm thick.

PL12550 ① 100 x 100mm

PL12555 ② 150 x 150mm

PLATES, SPOTTING TILE. Porcelain. Size 115 x 85mm, with 12 cavities.

PL12562 ③

PLATES, SPOTTING TILE. White polypropylene 115 x 95mm, with 12 x 1mm cavities.

PL12565 ④



PROJECTORS

SLIDE PROJECTOR 'Elite Jaguar'. For 35mm slides with a f2.8, 85mm lens, turbo cooling fan, adjustable feet, 24V 250W. Tungsten Halogen Lamp and remote control for lens focusing and normal and reverse slide changing. A DIN connection is provided for a tape recorder. Overall size 290x275x130mm. Supplied with a 36 slide magazine. For 230/250V.

PR12620 'Elite Jaguar'



PROJECTION SCREENS, Tripod stand.

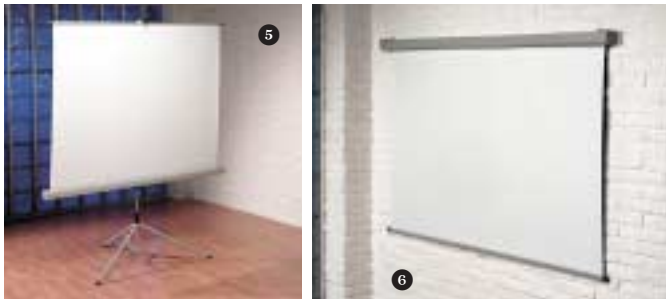
PR12635 1270 x 1270mm

PR12636 1524 x 1524mm

PROJECTION SCREENS, Pelmet wall roller screen.

PR12646 ⑤ 1270 x 1270mm

PR12648 ⑥ 1524 x 1524mm



OVERHEAD PROJECTOR, 'Elite Tutor'. Ergonomically designed for durability and safety. Projects bright, sharp images and has a range of tamper proof and safety features. Illumination is by one or two 24V 250W (A1/223) Lamps. Supplied with 4.5M cable with in unit storage. For 230/250V.

Specifications: Overall size: 385 x 385 x 770mm. Storage size: (Arm folded down) 385 x 525 x 265mm. Platform size: 285 x 285mm. Weight (approx.) 8Kg.

PR12652 Elite Tutor SL. (Single Lamp)

PR12653 Elite Tutor DL. (Dual Lamp)

Accessories:

PR12655 Acetate Roll attachments for 285mm Rolls

PR12680 Spare Bulb 24v 250w (A1/223)



O.H.P. TROLLEY 'Elite'. Fixed platform trolley made from tubular steel with 15mm grey edged melamine platform 400 x 412mm. The base has four twin wheeled 50mm castors, 2 with locking device.

PR12690 ⑦ Height 464mm

PR12691 ⑧ Height 670mm



PULLEYS

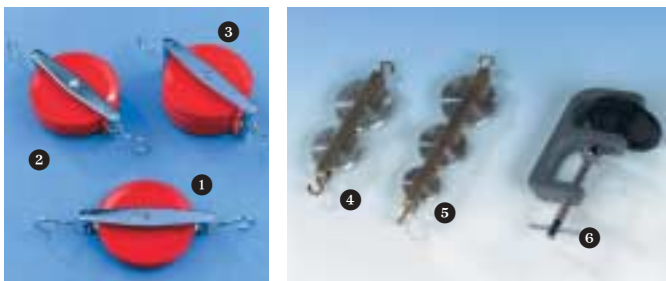
PULLEYS. Polypropylene wheels, aluminium frames, riveted for strength with replacable bearings. Wheels 50mm dia.

- PUI2700** ① Single
- PUI2705** ② Double
- PUI2710** ③ Triple

PULLEY BLOCK. Double in line. Brass frame with end hooks and two aluminium pulleys 30 and 37mm dia. Length of frame excluding hooks 85mm
PUI2712 ④

PULLEY BLOCK. Triple in line. Brass frame with end hooks and three aluminium pulleys 25, 30 and 37mm dia. Length of frame excluding hooks 115mm.
PUI2714 ⑤

PULLEY, BENCH - CLAMP FITTING. 50mm aluminium pulley, cone bearing, mounted in metal frame clamping to table or board up to 25mm thick.
PUI2716 ⑥



PULLEY, ROD MOUNTING. A 50mm dia cone bearing pulley mounted in an aluminum boss (100 x 20 x 20mm) with three holes and clamping screw, so the pulley can be mounted in any one of the three planes. Fits all standard retort rods.
PUI2718 ⑦

PULLEY, ROD and BENCH MOUNTING. A 50mm dia pulley mounted in a metal frame with two clamping screws for mounting onto a bench upto 38mm thick or a standard retort rod
PUI2720 ⑧



PUMPS

PUMP FOOT. Car foot pump with 120mm barrel and 450mm hose with nylon connector and football inflator adaptor. Complete with integral pressure gauge marked 0-100 p.s.i. and 0-7kg/cm² (0.7 bar).
PUI2750 ⑨



AIR PUMP, Diaphragm type, driven by a constant speed, shaded pole motor. Output 7.5 Lt./Min. Vacuum 280 mbar. Pressure 1.8 bar. 8mm Inlet and Outlet nozzles. For 220/240V.

PUI2755 ⑩ Air Pump

PUMPS, DIAPHRAGM VACUUM PUMP/COMPRESSOR. Quiet running, oil-free diaphragm pumps suitable for vacuum or pressure work. Housed in splashproof polycarbonate cases 120 x 205 x 140mm. Conforms to IEC1010. For 220/240v.

	Vac m/bar	Pressure Bar	Flow Lt./Min.	Inlet/Outlet
PUI2760 ⑪	520	0.7	5	4mm
PUI2762	280	1.8	14	8mm



PUMPS, HIGH VACUUM 'Javac'. Single and double stage oil sealed rotary vane design high vacuum pumps with fully adjustable gas ballast, interchangeable VACPAK pumping cartridge, built-in oil pump, automatic venting on shutdown and integrated safety isolation valve. Displacement 40Lt./Min. (2.4M³/hr). Pumping rate 0.02kg/hr. Rotational speed 2880 r.p.m. Motor rating 250W. Exhaust fitting 12mm. For 220/240V.

- PUI2770** ⑫ DSL40.Single Stage Vacuum 4 x 10-2m/bar
- PUI2772** ⑬ DDL40.Double Stage Vacuum 1 x 10-3m/bar
- PUI2775** Vacuum PumpOil



HAND VACUUM PUMP. A portable, hand operated pump which will create and hold a vacuum up to approx. 170m bar/625mm Hg. Made from high impact polystyrene. Nozzle accepts 6mm bore tubing. Complete with vacuum gauge and release valve. Pumping rate: 16cc per stroke.
PUI2780 ⑭



PUMPS, FILTER. - See Page 68

JOINTED GLASSWARE

We can supply the full range of 'Quickfit' Glassware.
Please contact our sales department for details

REDUCTION ADAPTORS - QUICKFIT

	Socket	Cone
QDA12 ¹	14/23	19/26
QDA13	14/23	24/29
QDA14	14/23	29/32
QDA23	19/26	24/29
QDA24	19/26	29/32

REDUCTION ADAPTORS - TIMSTAR

	Socket	Cone
JG26000 ¹	14/23	19/26
JG26002	14/23	24/29
JG26004	14/23	29/32
JG26006	19/26	24/29

EXPANSION ADAPTORS - QUICKFIT

	Socket	Cone
QXA21 ²	19/26	14/23
QXA31	24/29	14/23
QXA32	24/29	19/26

EXPANSION ADAPTORS - TIMSTAR

	Socket	Cone
JG26020 ²	19/26	14/23
JG26022	24/29	14/23
JG26024	24/29	19/26



MULTIPLE ADAPTORS - QUICKFIT with two necks parallel.

	Socket	Cone
QMA1/11 ³	14/23	14/23
QMA1/2	19/26	19/26

MULTIPLE ADAPTORS - TIMSTAR with two necks parallel.

	Socket	Cone
JG26040 ³	14/23	14/23
JG26042	19/26	19/26



ADAPTORS - QUICKFIT cone to rubber tubing, right angle.

	Cone
QMF10/1B/SC ⁴	14/23
QMF10/2B/SC	19/26

ADAPTORS - QUICKFIT socket to cone with "T" connection.

	Socket	Cone
QMF17/1SC ⁵	14/23	14/23
QMF17/3SC	14/23	24/29
QMF18/3SC	19/26	24/29

ADAPTORS - TIMSTAR socket to cone with "T" connection.

	Socket	Cone
JG26050 ⁵	14/23	14/23
JG26052	14/23	19/26



CONE/SCREW THREAD ADAPTORS - QUICKFIT

	Thread	Cone
QST51/13 ⁶	13	14/23
QST52/13	13	19/26
QST53/13	13	24/29
QST51/18	18	14/23
QST52/18	18	19/26

CONE/SCREW THREAD ADAPTORS - TIMSTAR

	Thread	Cone
JG26060 ⁶	13	14/23
JG26062	13	19/26
JG26064	13	24/29
JG26066	18	14/23

RECEIVER ADAPTORS - QUICKFIT plain bend, short.

	Socket
QRA1/01 ⁷	14/23
QRA1/02	19/26

RECEIVER ADAPTORS - TIMSTAR plain bend, short.

	Socket
JG26080 ⁷	14/23
JG26082	19/26

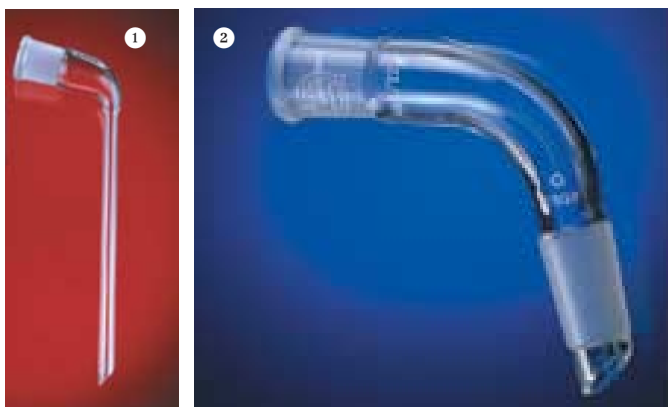


RECEIVER ADAPTORS - QUICKFIT plain bend, long.

	Socket
QRA1/11 ¹	14/23
QRA1/12	19/26
QRA1/13	24/29

RECEIVER ADAPTORS - TIMSTAR plain bend, long.

	Socket
JG26100 ¹	14/23
JG26102	19/26
JG26104	24/29



RECEIVER ADAPTORS - QUICKFIT plain bends.

	Socket	Cone
QRA9/11 ²	14/23	14/23

RECEIVER ADAPTORS - QUICKFIT bends, with vents.

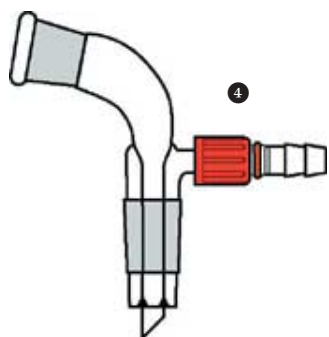
	Socket	Cone
QRA2/11 ³	14/23	14/23
QRA2/22	19/26	19/26

RECEIVER ADAPTORS - TIMSTAR bends, with vents.

	Socket	Cone
JG26110 ³	14/23	14/23
JG26112	19/26	19/26

RECEIVER ADAPTORS - QUICKFIT bends, with vacuum connection.

	Socket	Cone
QRA3/11/SC ⁴	14/23	14/23
QRA3/22/SC	19/26	19/26



RECEIVER ADAPTORS - QUICKFIT bends, with socket connection.

	Socket	Cone
QRA4/11 ⁵	14/23	14/23
QRA4/22	19/26	19/26
QRA4/23	19/26	24/29

LIEBIG CONDENSERS - QUICKFIT

	Effective Length(mm)	Socket	Cone
QC1/11SC ⁶	160	14/23	14/23
QC1/12SC	200	19/26	19/26
QC1/13SC	200	24/29	24/29
QC1/22SC	400	19/26	19/26
QC1/23SC	400	24/29	24/29

LIEBIG CONDENSERS - TIMSTAR

	Effective Length(mm)	Socket	Cone
JG26120 ⁶	160	14/23	14/23
JG26122	200	19/26	19/26
JG26124	200	24/29	24/29
JG26126	400	19/26	19/26
JG26128	400	24/29	24/29



AIR CONDENSERS - QUICKFIT

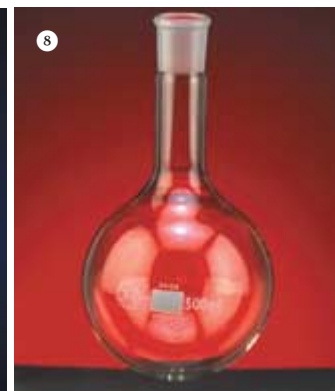
	Effective Length(mm)	Socket	Cone
QC2/11 ⁷	200	14/23	14/23
QC2/12	150	19/26	19/26

AIR CONDENSERS - TIMSTAR

	Effective Length(mm)	Socket	Cone
JG26140 ⁷	200	14/23	14/23
JG26142	150	19/26	19/26

ROUND BOTTOM FLASKS - QUICKFIT medium neck.

	Capacity (ml)	Socket
QFR100/3M ⁸	100	24/29
QFR250/3M	250	24/29
QFR500/3M	500	24/29



ROUND BOTTOM FLASKS - QUICKFIT short neck.

	Capacity (ml)	Socket
QFR50/1S ¹	50	14/23
QFR50/2S	50	19/26
QFR50/3S	50	24/29
QFR100/1S	100	14/23
QFR100/2S	100	19/26
QFR100/3S	100	24/29
QFR150/2S	150	19/26
QFR150/3S	150	24/29
QFR250/2S	250	19/26
QFR250/3S	250	24/29
QFR500/2S	500	19/26
QFR500/3S	500	24/29

ROUND BOTTOM FLASKS - TIMSTAR short neck.

	Capacity (ml)	Socket
JG26160 ¹	50	14/23
JG26162	50	19/26
JG26164	100	14/23
JG26166	100	19/26
JG26168	150	19/26
JG26170	150	24/29
JG26172	250	19/26
JG26174	250	24/29
JG26176	500	19/26
JG26178	500	24/29

ROUND BOTTOM FLASKS - QUICKFIT two necks.

Short centre neck, side neck at angle.

	Capacity (ml)	Centre socket	Side socket
QFR100/3S/1A ²	100	24/29	14/23
QFR250/3S/2A	250	24/29	19/26
QFR500/3S/1A	500	24/29	14/23

**ROUND BOTTOM FLASKS - QUICKFIT** three necks.

Short centre neck, two side necks at angle.

	Capacity (ml)	Centre socket	Side sockets
QFR250/3S/11A ³	250	24/29	14/23
QFR250/3S/22A	250	24/29	19/26

**CONICAL (ERLENMEYER) FLASKS - QUICKFIT**

	Capacity (ml)	Socket
QFE25/1 ⁴	25	14/23
QFE50/1	50	14/23
QFE100/1	100	14/23
QFE100/2	100	19/26
QFE100/3	100	24/29
QFE250/2	250	19/26
QFE250/3	250	24/29
QFE500/3	500	24/29

CONICAL (ERLENMEYER) FLASKS - TIMSTAR

	Capacity (ml)	Socket
JG26190 ⁴	50	14/23
JG26192	100	14/23
JG26194	100	19/26
JG26196	250	19/26
JG26198	250	24/29

FILTER FLASKS - QUICKFIT heavy wall with screw thread connection.

	Capacity (ml)	Socket
QFB100/2SC ⁵	100	19/26
QFB250/3SC	250	24/29
QFB500/3SC	500	24/29

FILTER FLASKS - TIMSTAR heavy wall

	Capacity (ml)	Socket
JG26210 ⁵	100	19/26
JG26212	250	24/29

**PEAR SHAPED SEMI-MICRO FLASKS - QUICKFIT** single neck.

	Capacity (ml)	Socket
QFP10/1 ⁶	10	14/23
QFP25/0	25	10/19
QFP25/1	25	14/23
QFP50/1	50	14/23
QFP100/1	100	14/23
QFP100/2	100	19/26

PEAR SHAPED SEMI-MICRO FLASKS - TIMSTAR single neck.

	Capacity (ml)	Socket
JG26220 ⁶	25	14/23
JG26222	50	14/23
JG26224	100	14/23
JG26226	100	19/26



PEAR SHAPED SEMI-MICRO FLASKS - QUICKFIT

Centre neck and side neck at angle.

Capacity (ml)	Centre and side socket
QFP50/1/1A ①	50 14/23

PEAR SHAPED SEMI-MICRO FLASKS - TIMSTAR

Centre neck and side neck at angle.

Capacity (ml)	Centre and side socket
JG26234 ①	50 14/23

DISTILLATION FLASKS - QUICKFIT

pear shape.

Capacity (ml)	Socket & cone
QMD2/10 ②	10 14/23
QMD2/25	25 14/23
QMD2/50	50 14/23

DISTILLATION FLASKS - TIMSTAR

pear shape.

Capacity (ml)	Socket & cone
JG26240 ②	25 14/23
JG26242	50 14/23

FRACTIONATING COLUMNS - QUICKFIT

	Socket	Cone	Effective Length (mm)
QFC1/12	19/26	19/26	150
QFC1/22	19/26	19/26	300
QFC2/13	24/29	24/29	150
QFC2/23	24/29	24/29	300
QFC3/13 ③	24/29	24/29	360
QFC3/23	24/29	24/29	600

FRACTIONATING COLUMNS - TIMSTAR

vigreux type

	Socket	Cone	Effective Length (mm)
JG26250 ③	24/29	24/29	360



CYLINDRICAL DROPPING FUNNELS - QUICKFIT

with socket and cone.

Capacity (ml)	Socket	Cone
QDI/1/1GP ④	50 14/23	14/23
QDI/2/1GP	100 14/23	14/23
QDI/2/2GP	100 19/26	19/26
QDI/3/2GP	250 19/26	19/26

CYLINDRICAL DROPPING FUNNELS - TIMSTAR

with socket and cone.

Capacity (ml)	Socket	Cone
JG26260 ④	50 14/23	14/23
JG26262	100 14/23	14/23
JG26264	100 19/26	19/26



PEAR SHAPED SEPARATING FUNNELS - QUICKFIT

with socket and cone.

Capacity (ml)	Socket	Cone
QD2/1/1GP ⑤	50 14/23	14/23
QD2/2/1GP	100 14/23	14/23
QD2/2/2GP	100 19/26	19/26



CONES WITH STEM - QUICKFIT

reduced top tube.

	Joint	Stem length (mm)
QMF15/1 ⑥	14/23	150
QMF15/2	19/26	150

CONES WITH STEM - TIMSTAR

reduced top tube.

	Joint	Stem length (mm)
JG26270 ⑥	14/23	150



RECOVERY BENDS - QUICKFIT

sloping delivery.

	Flask cone	Cone
QSH1/11 ⑦	14/23	14/23
QSH1/22	19/26	19/26
QSH1/33	24/29	24/29

RECOVERY BENDS - TIMSTAR

sloping delivery.

	Flask cone	Cone
JG26280 ⑦	19/26	19/26
JG26282	24/29	24/29



STILLHEADS - QUICKFIT with thermometer socket.

	Cone	Joints	Socket joint
QSH4/0 ①	10/13	10/13	10/19
QSH4/1	14/23	14/23	14/23
QSH4/2	19/26	19/26	19/26
QSH4/22	19/26	19/26	14/23
QSH4/23	24/29	19/26	14/23
QSH4/33	24/29	24/29	14/23

STILLHEADS - TIMSTAR with thermometer socket.

	Cone	Joints	Socket joint
JG26290 ①	14/23	14/23	14/23
JG26292	19/26	19/26	19/26
JG26294	19/26	19/26	14/23
JG26296	24/29	19/26	14/23
JG26298	24/29	24/29	14/23

CLAISEN HEADS - QUICKFIT sloping delivery, with two 14/23 sockets.

	Cone flask	Cone cond.
QSH6/1 ②	14/23	14/23

**STOPPERS - QUICKFIT**

	Cone
QSB10 ③	10/19
QSB14	14/23
QSB19	19/26
QSB24	24/29

STOPPERS - TIMSTAR

	Cone
JG26310 ③	14/23
JG26312	19/26
JG26314	24/29

**THERMOMETERS - QUICKFIT** enclosed scale.

	Cone	Range °C
QMF31/1 ④	14/23	-10 to 110
QMF31/2	14/23	-20 to 250
QMF31/3	14/23	-10 to 360

**THERMOMETER POCKETS - QUICKFIT** short closed, cone 14/23.**QSH4A** ⑤**THERMOMETER POCKETS - TIMSTAR** short closed, cone 14/23.**JG26320** ⑤**DRYING TUBES - QUICKFIT** bent.

	Cone
QMF23/1 ⑥	14/23
QMF23/2	19/26
QMF23/3	24/29

DRYING TUBES - TIMSTAR bent.

	Cone
JG26330 ⑥	14/23
JG26332	19/26

TEST TUBES - QUICKFIT

	Socket	Length (mm)
QMF24/1 ⑦	14/23	100
QMF24/1/5	14/23	125
QMF24/2	19/26	100
QMF24/3/8	24/29	200

**DRESCHEL BOTTLES - QUICKFIT**

	Socket	Capacity ml
QMF29/3/125 ⑧	24/29	125
QMF29/3/250 ⑨	24/29	250

DRESCHEL HEAD - QUICKFIT adjustable to fit both bottles.**QMF27/3/13** ⑩ 24/29 Cone**DRESCHEL HEADS - QUICKFIT**

	Cone	To fit bottle
QMF28/3/125/SC ⑪	24/29	QMF29/3/125
QMF28/3/250/SC	24/29	QMF29/3/250



QUICKFIT SETS (ONE JOINT SIZE - 14/23)

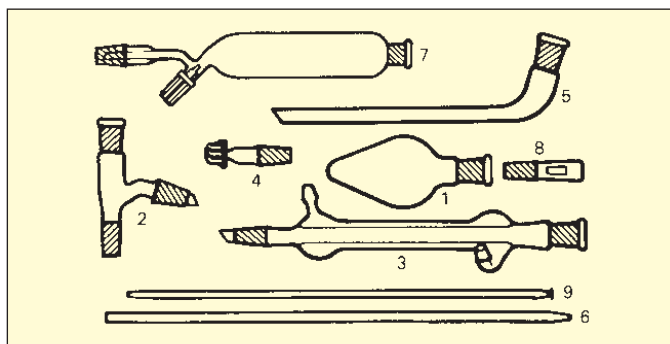


'27 BU/M SET' Has been purposely designed to cover the essential requirements for the teaching of organic chemistry in schools and colleges, and is difficult to beat for versatility. The set comprises of nine items of glassware and is housed in a robust cardboard box fitted with integral plastic storage tray. Supplied with the set are instructions for use which include practical details of a students course of experiments.

Items included are:- Air Leak/Steam Inlet Tube, Still Head, Dropping Funnel 50ml, Screwcap Adapter, Pear Shaped Flask 50ml, Receiver Adapter, Liebig Condenser, Stopper & Thermometer

Q 27BU/M
JG26380

Quickfit Boxed Set.
Timstar Glassware only

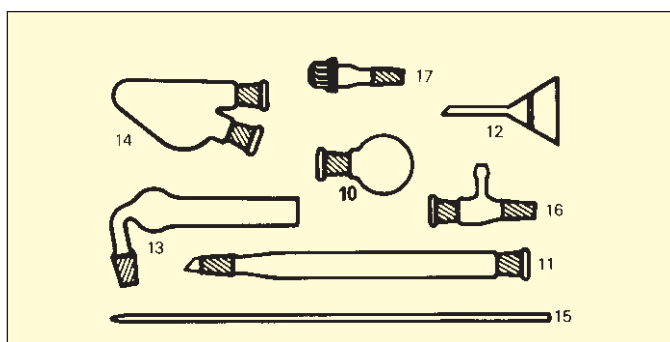


'27 X/M SET' This set contains eight items of glassware and is designed for use in conjunction with Set 27BU/M. The set is packed as the 27 BU/M and is supplied with an instruction booklet.

Consisting of:- Round Bottom Flask 25ml, Pear Shaped Flask 50ml with angled side neck, Air Condenser/Drying Tube, Sintered Glass Funnel, Leak/Steam Inlet Tube, Drying Tube, Screwcap Adapter, Adapter with 'T' connection

Q 27X/M
JG26382

Quickfit Boxed Set.
Timstar Glassware only



TIMSTAR ORGANIC CHEMISTRY SET (Multi-Joint). Ideal set for basic organic chemistry, consisting of:-

Item	Socket	Cone
Liebig Condenser	19/26	19/26
Air leak tube		19/26
Receiver Adapter	19/26	24/29
Separating Funnel 100ml	19/26	19/26
Flash R.B 50ml	19/26	
Flash R.B 100ml	24/29	
Flash R.B 250ml	24/29	
Reduction Adaptor	19/26	24/29
Multiple Adaptor	19/26	24/29
Receiver Adapter	19/26	
Stillhead	14/23	19/26
Flash Conical 250ml	24/29	
Thermometer Pocket		14/23
Stopper (x2)		19/26
Stopper		24/29

JG26360



REFRIGERATORS

REFRIGERATOR. A 142 litre capacity with a full width freezer compartment. Finished in white enamel and complete with interior light, adjustable thermostat, push-button defrost, 2 wire adjustable shelves, 3 adjustable door racks and storage bin. Size: 850(H) x 545(W) x 595(D)mm. For 220/240V.

RE12920 ①

FRIDGE FREEZER. A 143 litre fridge complete with interior light, adjustable thermostat, automatic defrost, 3 wire adjustable shelves, 3 adjustable door racks and storage bin, and a 72 litre freezer complete with 2 shelves and ice cube tray. Finished in white enamel. Size: 1360(H) x 545(W) x 600(D)mm. For 220/240V.

RE12922 ②



PHARMACY FRIDGE. 30 litre capacity. Designed for the storage of vaccines, insulin, etc. Pre-set thermostat ensures temperature of between 2 to 6°C. Complete with door lock, thermometer dial and 2 adjustable shelves. Finished in white. Size: 552(H) x 380(W) x 439(D)mm. For 220/240V.

RE12924



ROCKETS

WATER ROCKET KIT. (Rokit).

The kit makes use of an empty 1 or 1.5lt lemonade or Cola plastic bottle. The special cap, nozzle and fins supplied are attached to the bottle. An air tube and adaptor are supplied to connect the bottle to a cycle pump. The bottle is part filled with water and air pumped into the bottle. The pump connector on the bottle releases at a set pressure and the rocket is then launched. The rocket will reach a height of approximately 20M. The bottle and cycle pump are not supplied, all spares available. Complete with full instructions.

RO12950

Rocket Kit

RO12951

Experimental Booklet (18 pages)



RODS

RODS, SODA GLASS. In 0.5M lengths.

	Dia.	No. Lengths/Pack
RO13001	4mm	50
RO13006	5mm	50
RO13011	6mm	40
RO13016	7mm	25
RO13021	8mm	25

RODS, STIRRING, Glass. Flat one end

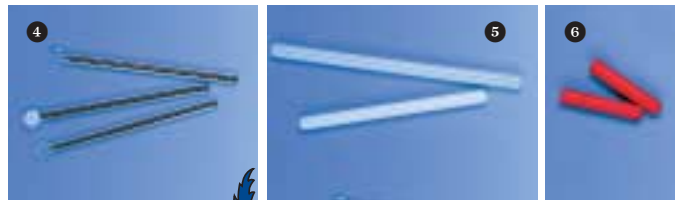
RO13030 ④	Length 150mm
RO13035	Length 200mm
RO13040	Length 300mm

RODS, STIRRING, Polypropylene. Diameter 10mm.

RO13046 ⑤	Length 150mm
RO13047	Length 200mm
RO13048	Length 250mm

POLICEMEN, P.V.C. Tube with one end closed. Length 40mm

RO13055 ⑥	4.5mm Int. dia.
RO13060	6mm Int. dia.



VISIT OUR WEBSITE

WWW.TIMSTAR.CO.UK

**for up to date products
and offers**

RULES

RULES, METRIC, White Plastic. Horizontal reading. Both edges divided in millimetres; figured every centimetre. One edge reading Left to Right, the other Right to Left.

RUI3100 ① **Rule 1M**

RULES, IMPERIAL/METRIC, White Plastic. Horizontal reading. One edge divided in millimetres and figured every centimetre. One edge divided in 1/10th inch and figured every inch.

RUI3110 ② **Rule 1M**

RULES, METRIC, White Plastic. Vertical reading, with millimetre division and figured every centimetre down the centre.

RUI3120 ③ **Rule 1M**

RULES, 300 mm Clear plastic. One edge divided in millimetres, the other in 10th. of an inch.

RUI3140 ④

RULES, METRIC, Wooden. Horizontal reading. Both edges divided into millimetres and figured every centimetre.

RUI3143 ⑤ **Rule 0.5M**

RUI3145 **Rule 1M**

RULES, METRIC, Wooden. Vertical reading with millimetre division and figured every centimetre down the centre.

RUI3146 ⑥ **Rule 1M**

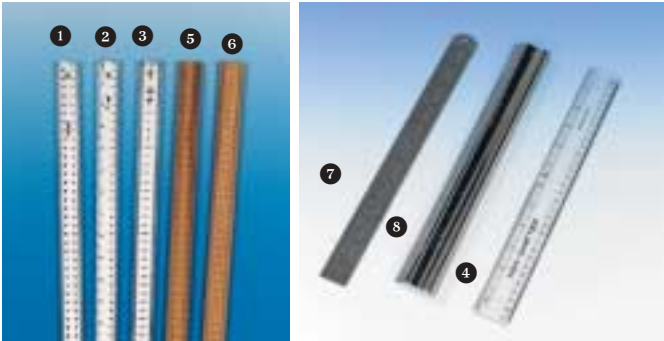
RULES, STEEL, 300mm, with Imperial/Metric graduations.

RUI3150 ⑦

RULES, MAUN SAFETY, Metal rule 300x1mm designed to keep your fingers safe whilst using sharp blades when making straight cuts.

RUI3152 ⑧

TAPE MEASURES - See Page 94



SAFETY AND PROTECTION



APRONS. Polythene, Disposable bib fronted. Size 917x690mm.

SAI3200 ⑨

APRONS P.V.C. Bib fronted.

SAI3204 875 x 600mm

SAI3205 1000 x 900mm

LABORATORY COATS. White polyester/cotton. Concealed stud front fastening with two side patch pockets and one breast pocket. Length approx. 105cm.

For Men: **Chest**

SA44000 ⑩ **96cm**

SA44005 **100cm**

SA44010 **108cm**

SA44015 **112cm**

SA44020 **116cm**

For Women: **Chest**

SA44100 ⑪ **88cm**

SA44105 **92cm**

SA44110 **96cm**

SA44115 **100cm**

SA44120 **104cm**

SA44125 **108cm**

SA44130 **112cm**

SA44140 **120cm**

LABORATORY COATS. White, Cotton Drill. Concealed stud front fastening with two side pockets and one breast pocket. Length approx 105cm. Unisex design.

Chest

SA44200 **88cm**

SA44205 **92cm**

SA44210 **96cm**

SA44215 **100cm**

SA44220 **108cm**

SA44225 **112cm**

SA44230 **120cm**

LABORATORY COATS 'Howie'. White polyester/cotton. Offset front stud fastening, stretch cuffs, two hip patch pockets and one breast pocket. Unisex design.

Chest

SAI3250 ⑫ **92cm**

SAI3251 **96cm**

SAI3252 **100cm**

SAI3253 **104cm**

SAI3254 **108cm**

SAI3255 **112cm**

SAI3256 **116cm**



EYE & FACE PROTECTION

EYESHIELDS. Polycarbonate. Spectacle type with clear lenses, brow-guard, and hinged side pieces giving all round protection. Can be worn over spectacles. To EN166-1F.

SAI3260 ① Adult Eyeshield
SAI3262 ② Junior Eyeshield
SAI3264 PVC Carrying Case

SAI3261
SAI3263
SAI3265



EYESHIELDS. Spectacle type with 'C-Kleer' abrasion resistant polycarbonate lens to EN166-1F with brow guard and hinged side pieces. Can be worn over spectacles.

SAI3266 ③ Clear lens
SAI3267 Light green tinted lens

SAFETY SPECTACLES. 'Unispec 5000 series'. A moulded lightweight sherry coloured acetate frame with deep integral side shields and browguard. Moulded pre-set temple arms enhance comfort and fit. Fitted with a replaceable clear polycarbonate lens. Conforms to EN166-1F.

SAI3268 ④ Unispec
SAI3269 Spare lens



GOGGLES 'KAVALIER' Ventilated, transparent P.V.C. frame fitted with clear Polycarbonate Lens. Can be worn over spectacles. Conforms to EN166-1B.

SAI3270 ⑤ Adult Goggles
SAI3275 Spare Polycarbonate Lens
SAI3277 ⑥ Junior Goggles

SAI3271
SAI3276
SAI3278

GOGGLES 'KAVALIER'. Indirect ventilation, transparent P.V.C.frame fitted with clear Polycarbonate Lens. Can be worn over spectacles. Conforms to EN166-1-349B.

SAI3280 Goggles
SAI3285 Spare Polycarbonate Lens

SAI3281
SAI3286

GOGGLES 'ECONOMY RANGE'. General purpose goggles with a transparent P.V.C frame fitted with impact resistant polycarbonate lens. Can be worn over spectacles.

SAI3288 ⑦ Direct Ventilation.conforms to EN166-1B
SAI3290 Indirect Ventilation.conforms to EN166-1-349B



GOGGLES - Vistamax 2000 Range. A hi-tech goggle that places a twin focus on looks and performance. A high flow venting anti-mist system is designed within a deep PVC frame that gives a close comfortable fit. The Vistamax 2000 gives up to three times better non-mist performances than conventional goggles and may be worn over prescription spectacles. Fitted with a clear moulded polycarbonate lens. Conforms to EN166-1-349B.

SAI3292 ⑧ Vistamax Goggles with non-mist lens
SAI3293 Spare non-mist lens

GOGGLE BOX DISPENSERS. Wall mounting boxes in heavy duty acrylic for storing/dispensing eyeshields (without eyeshields).

SAI3296 To hold 10 eyeshields

FACE SHIELD. Moulded in lightweight plastic with brow guard, adjustable crown strap and elastic back. The 20cm clear acetate deep visor can be raised when not required. Can be worn over spectacles. Conforms to BS 2092, General Purpose Impact Grade 2. chemical splash.

SAI3300 ⑨ Face Shield complete
SAI3301 Spare Browguard
SAI3305 Spare Acetate Visor 20cm deep



DUST and PARTICLE MASK. Made from lightweight non-woven fabric with elastic retaining loops. Suitable for non-toxic dusts.

SAI3307 ⑩

DUST RESPIRATOR 3M. For protection against fine dusts and fibres. Maximum usage level 4xOEL. Conforms to EN149 FFP1S.

SAI3318 8710E Dust Respirator



RESPIRATOR. 'Safir Sussex 300'. Combining a moulded, non-dermatitic, rubber body with a replaceable Filter holder, complete with a non-return valve. A Pre-filter pad initially removes the coarse particles to prolong the life of the main filter cartridge. Complies to Eurostandard EN140 and to COSHH regulations.

- SAI3321 ① Respirator (without cartridges)
- SAI3322 ② Spare Filter Cartridges for Toxic dusts & fumes to EN143
- SAI3323 Spare Filter Cartridges for Organic gases & vapours to EN141
- SAI3325 Spare Filter Cartridges for Inorganic gases and vapours to EN141
- SAI3324 Pre-Filter Pads

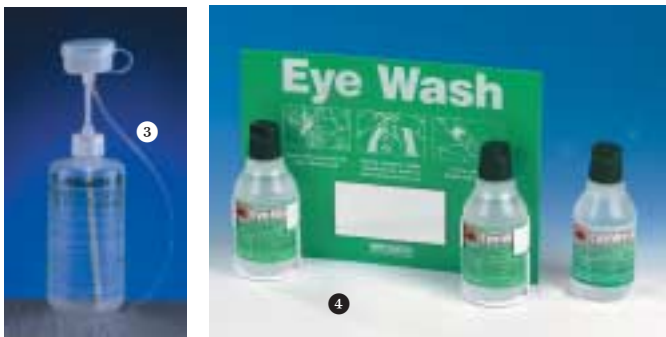


EYEWASH BOTTLE. White polythene 500ml. By squeezing the bottle the solution is sprayed into the eye. Contaminated wash flows away from the bottom of the cup through a tube. When not in use eye cup is fitted with dust cover.

- SAI3335 ③ Eyewash Bottle
- SAI3336 Eyewash Bottle without fitted waste tube

EMERGENCY EYE-WASH STATION. Wall mounting, Complete with a 500ml Bottle of Sterile eyewash solution. Size 30 x 40cm. Supplied with two spare bottle of solution.

- SAI3341 ④ Eye-wash Unit
- SAI3345 Sterile Saline Solution



EMERGENCY EYE-WASH SPRAY. Manually operated eye-wash with 1.5M flexible tube for bench mounting. Gives an aerated low pressure spray for washing face and eyes.

- SAI3350 ⑤



FIRST AID

FIRST AID CABINET. For up to 10 persons. In green polypropylene box with hinged lid. 250 x 190 x 70mm. Complies with Health and Safety Regulations 1981.

- SAI3360 ⑥



FIRST AID CABINET. For up to 50 persons, in green polypropylene box with hinged lid. 330 x 230 x 100mm. Complies with Health and Safety Regulation 1981.

- SAI3365

GLOVES

GLOVES, DISPOSABLE. Polythene, in dispensing packs of 100.

- SAI3400 ⑦ Small
- SAI3405 Medium

GLOVES, DISPOSABLE. Latex. Seamless matt finish with excellent finger sensitivity. Fits either hand. Available either pre-powdered for easy removal or powder free. In packs of 100.

- SAI3406 ⑧ Small Pre-powdered
- SAI3406PF Small Powder Free
- SAI3407 Medium Pre-powdered
- SAI3407PF Medium Powder Free
- SAI3408 Large Pre-powdered
- SAI3408PF Large Powder Free

GLOVES, DISPOSABLE. Vinyl, seamless matt finish. Pre-powdered for easy removal. Fits either hand. Good finger sensitivity. In packs of 100.

- SAI3411 ⑨ Small
- SAI3416 Medium
- SAI3421 Large

GLOVES, DISPOSABLE. Nitrile Rubber. Seamless matt finish with excellent finger sensitivity. Fits either hand. Significantly stronger than latex and have a superior resistance to oil/chemical permeation. Powder free in packs of 100

- SAI3422 Small
- SAI3423 ⑩ Medium
- SAI3424 Large



GLOVES. Medium weight red P.V.C. Resistant to most acids and chemicals. Length 270mm.

- SAI3425 ① Size 7½
SAI3430 Size 8½
SAI3435 Size 9½

GLOVES, BLUE NITRILE. A flock lined nitrile glove with patterned fingers and palm. Nitrile gloves give good resistance to many solvents and oil based chemicals with excellent abrasion and puncture resistance. Length 330mm.

- SAI3436 ② Size 7½
SAI3437 Size 8½
SAI3438 Size 9½

GLOVES, RUBBER. 'Washing up' with suregrip. Medium weight.

- SAI3440 ③ Small
SAI3445 Medium
SAI3450 Large

GLOVES, RUBBER GAUNLET. Medium weight black unlined natural latex gloves. Length 432mm.

- SAI3452 ④ Size 8½
SAI3453 Size 9½

GLOVES, LEATHER. Gauntlet type with heat resisting leather palm. Fleece lined. Overall length 300mm.

- SAI3455 ⑤



HAND/FINGER PROTECTORS. Silicone rubber grippers for safe handling of hot or cold objects. Will withstand -50 to +250°C temperatures.

- SA27000 ⑥ Finger
SA27005 Small Hand
SA27010 Medium Hand

HAND CLEANSERS/CREAMS

BARRIER CREAM - Deb Protek Dry. A non-greasy pre-work barrier cream which minimises contact between skin and oil based powders and solvents.

SAI3457

BARRIER CREAM - Deb Protek Wet. A pre-work barrier cream formulated to protect skin where frequent contact with water based solutions, detergents etc. occur.

SAI3458

SAFETY SIGNS & CHARTS.

WARNING SIGNS. Yellow background, black text with the word 'DANGER' in the Title. Size 200 x 300mm. Vinyl, self adhesive.

- SA27050 Biological Hazard
SA27052 Corrosion Risk
SA27054 Explosive Material
SA27056 Fire Risk
SA27058 Laser Beam
SA27060 Radiation Risk
SA27062 Toxic Hazard

MANDATORY SIGNS. Blue background with white text. Size 200 x 300mm. Vinyl, self adhesive.

- SAI3470 ⑦ Wear ear protectors
SAI3471 ⑧ Eye protection must be worn
SAI3472 Wear face shield
SAI3473 Wear gloves
SAI3474 Wear protective clothing
SAI3475 Wear respirator



SPILLAGES CHART. Describes rapid methods of dealing with spillages of over 300 hazardous compounds. Size 1130x880mm.

SAI3477

LABORATORY FIRST AID CHART. Provides immediate reference to first aid measures in the event of laboratory accidents. Size: 840x650mm.

SAI3478

SCREENS

NUFFIELD SAFETY SCREEN. Acrylic sheet 76x61 cm, thickness 3mm.

SAI3485

SAFETY SCREEN, Acrylic sheet 900 x 600 x 3mm (Reg. Pattern) in three panels 300 x 600mm at 120° Angle. Two screens can be used to totally encircle an experiment to offer all round protection

SAI3490

SAFETY SCREEN, FOLDING. Tough clear polycarbonate screen with full height hinges and heavy metal feet for added stability. Folds flat for storage. Overall size: 830 x 600mm high.

SAI3492 ⑨



SLOTTED BASE. To support screens etc. vertically. Cast iron with hammer finish. Jaws 40mm high with thumb screw. Base size 95 x 75mm.

SAI3494 ⑩

SHARPS CONTAINERS

SHARPS CONTAINERS. For the safe storage and incineration of sharps, syringes, needles etc. A double coated composite board container with metal base and top, carrying handle and lid. Conforms to BS7320 1990.

	Capacity	Size
SAI3495 ①	5Lt	300 x 150mm dia.
SAI3496	10Lt	300 x 200mm dia.
SAI3497	15Lt	430 x 200mm dia.

MERCURY SPILL COLLECTOR. Polyethylene. Mercury is collected in the foam pad by hand pressure and then deposited in the jar by screwing the cap onto the base.

SAI3498 ②	Mercury Collector
SAI3499	Spare foam pad



ELECTRICAL SAFETY

APPLIANCE CHECKER 'THE PATCH'. (PORTABLE APPLIANCE TESTER AND CHECKER) performs electrical safety tests on portable appliances allowing compliance with EAWA regulations. The unit performs earth bond and insulation tests on both Class 1 and Class 2 appliances, extension leads, IEC and kettle leads etc. The unit is very simple to operate and gives clear, unambiguous pass/fail indications. Complete with test leads, instructions, pass and fail labels, a Tester's Certificate of Inspection and fitted with moulded mains plug.

EL06836



FIRE EXTINGUISHERS

FIRE EXTINGUISHER, PORTABLE DRY POWDER. For small fires involving flammable liquids and electrical appliances. Fire rating 13B. Stored pressure, controlled discharge. Supplied with mounting bracket.

SA27200 ③ FM20 Extinguisher

FIRE EXTINGUISHER, DRY POWDER. ABC. Suitable for use on wood, paper, flammable liquids and electrical fires. Stored pressure powder extinguishers to BS-EN3:1996. Supplied with fitted pressure gauge and mounting bracket. Fire rating 5A/34B. Capacity 1Kg.

SA27205 ④ 1000 PR Extinguisher

FIRE EXTINGUISHER CARBON DIOXIDE. For fires involving flammable liquids and electrical appliances. Conforming to BS-EN3:1996. Fire rating 34B. Capacity 2Kg. Supplied with wall mounting bracket.

SA27210 ⑤ CD2 Extinguisher

FIRE BLANKET. Light duty two-ply glassfibre blanket with fire retardent material interleaving.. To BS6575-1985. Supplied in a PVC wallet for wall mounting.

SA27215 ⑥ Fire Blanket 1100 x 1100mm

SA27216 Fire Blanket 1800 x 1200mm



SCISSORS

SCISSORS. Nickel plated open shank. Ideal for use in primary schools.

SCI3601 ⑦ Length 9cm Blunt / Blunt

SCI3602 ⑧ Length 9cm Sharp / Sharp

SCISSORS. General purpose. Nickel plated, closed shank.

SCI3611 ⑨ Length 11.5cm Blunt / Blunt

SCI3612 ⑩ Length 11.5cm Blunt / Sharp

SCI3613 Length 13.0cm Blunt / Blunt

SCI3614 Length 13.0cm Blunt / Sharp

SCI3616 Length 15.0cm Blunt / Sharp

SCI3617 Length 15.0cm Sharp / Sharp



SCISSORS. Stainless steel - dressing and dissecting - See Page 47

SCISSORS, GENERAL PURPOSE. Stainless steel.

- SCI3620 ① Length 12.5cm Blunt / Sharp
 SCI3621 ② Length 15.0cm Blunt / Sharp
 SCI3622 ③ Length 17.5cm Blunt / Sharp

SCISSORS, HEAVY DUTY. Multipurpose, saw edge, stainless steel blades with autoclavable plastic handles. Overall length 180mm.

SCI3625 ④



SEALANTS

CLING FILM, SEALANT. Suitable for sealing Laboratory containers.

In continuous roll 300mm wide x 300M.

SEI3500 ⑤

SEALING FILM, PARAFILM 'M'. A two-way stretchable semi-transparent sealing film. Suitable for sealing beakers, tubes, Petri dishes, etc. and around irregular shapes. Interleaved with paper.

- SEI3505 ⑥ 50mm x 76M
 SEI3510 100mm x 38M

PLASTICINE. In packs of 500g.

- SEI3520 ⑦ White
 SEI3525 Red
 SEI3530 Yellow
 SEI3535 Blue
 SEI3540 Green
 SEI3545 Black
 SEI3550 Stone
 SEI3555 Orange

SEALING COMPOUND. Silicone rubber in collapsible 78g tube,

SEI3565



SIGNAL GENERATOR

SIGNAL GENERATOR, PORTABLE 0.1Hz to 25kHz. This is a compact signal generator/amplifier which may be battery powered for convenience. The frequency range is 0.1Hz to 25kHz selected by a four way selector and a fine rotary control. The unit offers sine, triangle and square wave outputs. The signal is fed into an amplifier section with sufficient output to power loudspeakers, vibration generators etc. The amplifier may be accessed separately if required. The unit is powered by 2 x PP3 battery for portability. A mains power unit is also available.

- SI30800 Signal Generator
 SI30802 Mains Power Unit



SIGNAL/FUNCTION GENERATOR/AMPLIFIER 0.1Hz to 100kHz.

A precision instrument comprising a signal/function generator with sine, square, triangle and pulse waveforms, power amplifier and digital frequency display. These functions can be used for a variety of applications in wave and acoustic experiments including analogue and digital electronics. The amplifier can be used for amplifying the internal signal direct from the generator or external signals.

- Waveforms: Sine, square, triangle, pulse
 Frequency: 0.1Hz to 100kHz in 6 ranges
 Display: 4 digit LED
 Output Amplitude: 0.1V to 10V p-p
 VCG Input: 0 to 2V for external sweep
 Digital Output: TTL/CMOS
 Output Power: 5W in 4 ohm at 10kHz, 1W in 4 ohm at 100kHz
 Supplied complete with test leads and instruction manual.

SI30815



LOUDSPEAKER UNIT. A compact loudspeaker unit fitted with a 10 watt, 8 ohm driver. Connection is via colour coded 4mm sockets. Fitted into a durable ABS case.
SI30820



VIBRATION GENERATOR.

A generator for producing mechanical vibrations when used with a function generator. The input is fed to a coil which is mounted within the field of a cylindrical permanent magnet. The unit is fuse protected. Locking mechanism protects from shock during transit, and when changing accessories. Max. input 6V/ 1A. Dimensions: 100 x 100 x 120mm
SI30825



SPARE SOLUTIONS for pH NPK kits.

- SO13640 pH Solution
- SO13641 NI Solution
- SO13642 PI Solution
- SO13643 KI Solution
- SO13644 K2 Solution
- SO13645 N2 Powder

SOIL TEST KIT - Barium sulphate. A portable, self contained kit for the fast determination of soil pH on difficult soil suspensions. Supplied in a hinged, plastic case.

SO13660



Spares and Accessories:

- SO13662 Graduated test tubes with bungs
- BA1490 Barium Sulphate
- SO5900 Soil Indicator

SOIL pH METER. For any number of easy instant pH checks on soil or compost in laboratory or garden. Reads direct from soil or compost without sampling. Includes full instructions on adjusting pH to suit individual plants. pH readings for pH 3.5 to pH 9.0 instantly shown on the meter's display.

SO13665

SOIL pH MINI TESTER. Instantly shows acid/alkaline content of soil.

SO13667

PLANT LIGHT & WATER METER. This meter ensures the right individual light and moisture conditions. Tests the moisture deep down where the roots are. Complete with exceptional 50 page manual on individual light and water needs of hundreds of plants.

SO13670

WATER MINI TESTER. Instantly shows basic watering needs.

SO13672

SOIL TESTING



SOIL TEST KIT. 'pH NPK'.

Comprising of test solutions and equipment to give over 80 tests for Nitrogen, Phosphorous, Potash and pH of Soil. Supplied in a carton with full instructions.

SO13630

SOIL TEST KIT. 'pH NPK' As SO13630 but with test solutions and equipment for over 250 tests. Supplied in a hinged carrying case.

SO13635



SOIL SIEVES. Set of six brass nesting sieves in aluminium frames. Mesh No's 10, 20, 40, 60, 80, & 100. Complete with aluminium lid and receiver.
SOI3675 ①

SOIL THERMOMETER. Spirit filled thermometer in 225mm aluminium tube. -10 to 110° & 20 to 240°F.
SOI3680 ②



SOIL AUGER. Screw type, with an eye to accommodate a 'T' bar (not supplied). Overall length approx. 600mm
SOI3682

SOUND METERS

SOUND LEVEL METER. A versatile sound level meter, with dual scale, calibrated for 40 to 120dB, with a resolution of 2dB. Calibration by an internal oscillator. Hi accuracy capacitance microphone sensor. Powered by one PP3 9V battery (not supplied). Dimensions: 160 x 85 x 38mm. Supplied with carrying pouch and full instructions.
SOI3690 ③

SOUND LEVEL METER. A simple sound level meter with a LED dial reading from 50 to 100dB. Size 145 x 75mm. Powered by 2 x AA batteries (not included)
SOI3688 ④



SPATULAS



SCOOP. Stainless steel with handle. Scoop length 100mm, diameter 50mm
SPI3700 ⑤

SCOOPS. Polythene, rigid with handle.
Capacity

SPI3705 ⑥	25ml
SPI3710	50ml
SPI3712	100ml
SPI3715	250ml
SPI3720	500ml
SPI3725	1Lt.

SPATULAS. Polypropylene. Flat tapered blade.

SPI3730 ⑦	Length 100mm
SPI3735	Length 150mm
SPI3740	Length 200mm
SPI3745	Length 250mm

SPATULAS, CHATTAWAY. Stainless steel, 200mm long.
SPI3750 ⑧

SPATULAS, CHATTAWAY. Stainless steel, Micro.

SPI3755 ⑨	Length 100mm
SPI3760	Length 150mm
SPI3765	Length 200mm

SPATULAS. With spoon end. Stainless steel.

SPI3770 ⑩	Length 150mm
SPI3775	Length 210mm



SPATULAS, Nuffield pattern. Stainless steel. Length 140mm
SPI3781 ⑪ **SPI3782**

SPATULA, Trulla. Stainless steel. Length 175mm
SPI3785 ⑫

SPATULA. With off-set spoon. Stainless steel. Length 190mm
SPI3790 ⑬

SPOONS. Plastic (Teaspoons) length 120mm.
SPI3792

SPATULAS. (Palette Knives). Stainless Steel. Parallel sided blade in plastic handle.

SPI3800 ⑭	100mm Length of Blade
SPI3805	150mm Length of Blade
SPI3810	200mm Length of Blade
SPI3815	250mm Length of Blade



SPECTROMETERS

SPECTROMETER, STANDARD. An economically priced instrument, which is nevertheless capable of much useful quantitative work. The main structural parts, including the collimator and telescope bodies are heavy castings, other metal parts being bright plated.

Specifications:

Scale: 170mm dia. divided 0 to $360^\circ \times 1^\circ$, independantly rotatable with locking screw. A spring-loaded vernier scale attached to the telescope mount provides readings to 0.1° (6 minutes of arc).

Collimator: Mounted on fixed pillar with axis adjustment. Objective lens 150mm FL, an aperture of 21mm and is carried in spiral focusing systems. Unilaterally adjustable slit 6mm long.

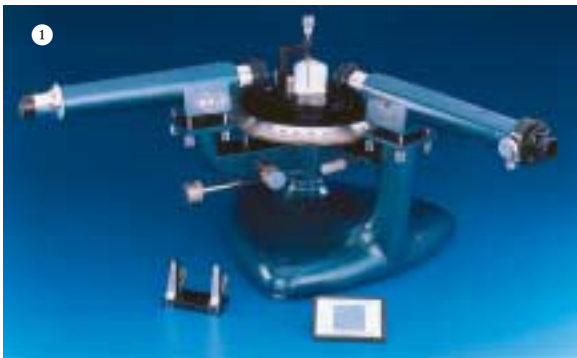
Telescope: Mounted on moveable pillar with adjustment, locking screw and axis adjustment. Objective lens has 170mm FL, 21mm aperture and is carried in a spiral focussing system.

Ramsden eyepiece: with cross wires and locking ring focus adjustment.

Prism Table: The table is provided with three leveling screws and is lined marked to assist placement of prism.

Standard Accessories Supplied: 1 prism clamp for prisms up to 40mm high, 1 diffraction grating holder, aperture 25 x 25mm, 1 small screwdriver, 1 tommy bar for axis adjustment, 1 wooden case.

SP13816 ①



SPECTROMETER, INTERMEDIATE. This is a robust instrument designed specifically for student use, which nevertheless is capable of very high performance. The main structure is of heavy cast metal, with bright plated fittings. The complete instrument is supplied with wooden case.

Specifications:

Scale: The 150mm dia. circle with protective plastic shield is fixed to the telescope movement and the table is attached to the double ended vernier, which reads to 1 minute of arc. Both telescope and table rotation have fine adjustment screws, and release of a clamping screw enables adjustment of both movements to be made by hand.

Collimator: Mounted on fixed and fitted with 178mm focus achromatic objectives, 25mm clear aperture. Also fitted is a unilaterally adjustable slit 7mm long.

Telescope: Mounted on moveable pillar and fitted with 178mm focus achromatic objectives, 25mm clear aperture. Also fitted is a 8X Ramsden eyepiece and a glass cross line graticule. Both the telescope and collimator have rack and pinion focusing. Means are provided for levelling the axis of both optical units and for squaring them to axis of rotation.

Prism Table: The table is marked with lines to assist placing the prism with respect to the table levelling screws.

Standard Accessories Supplied: 1 prism clamp, 1 diffraction grating holder, 1 magnifier, 1 tommy bar for adjustment optical axis, 1 wooden case.

SP13817 ②

SPECTROMETER, ADVANCED. Allows readings to 30 seconds of arc. This instrument whilst robust enough for individual student use is also intended for more advanced work. The general finish of the apparatus is similar to that of the intermediate model.

Specifications:

Scale: The 177mm dia. circle is fixed, and the table and telescope movements are completely independant of each other. Both movements can be read to 30 seconds of the arc by means of double ended verniers. Both rotations have fine adjustment screws, and release of a clamping screw enables coarse adjustments to be made by hand.

Collimator: Mounted on fixed pillar and fitted with 178mm focus achromatic objective, 32mm clear aperture. A unilaterally adjustable slit, 6mm long is also fitted.

Telescope: Mounted on moveable pillar and fitted with 178mm focus achromatic objective, 32mm clear aperture. Also fitted is a x 15 Ramsden eyepiece and a crossline graticule. Both the telescope and collimator have rack and pinion focusing. Means are provided for leveling the axes of both optical units and for squaring them to the axis of rotation.

Prism Table: The table is marked with lines to assist placing the prism with respect to the table levelling screws, and has interchangeable clamping units for the prism and a diffraction grating.

Standard Accessories Supplied: 1 dense flint glass prism, 1 prism clamp, 1 diffraction grating holder, 1 watchmaker's eyeglass, 1 tommy bar for adjusting optical axes, 1 polished hardwood case.

SP13818 ③

Accessories:

- SP13820** Crown glass prism, 32mm aperture
- SP13821** Extra dense flint glass prism, Face 32mm x 32mm
- SP13822** Diffraction grating replica 600 lines
- SP13823** Double sided mirror
- SP13824** Polaroid polariser or analyser, 25mm aperture
- SP13825** Polariser or analyser, rotary. 89mm dia. Vernier to 0.1
- SP13826** Quarter wave plate



SPECTROPHOTOMETERS

SI04 SPECTROPHOTOMETER SERIES WPA. There are two models available analogue or digital. Both models read between 380 and 900nm with a 5nm band width and contain a dual cuvette holder accepting standard 10mm cuvettes. Supplied with instruction book and starter pack of cuvettes. For 220/240V.

SI04 SPECTROPHOTOMETER - Analogue. Range Absorbance: 0-2 x 0.02. Transmission: 0-100%. Zeroing by a manual rotary control.

SPI3830



SI04D SPECTROPHOTOMETER - Digital. Range Absorbance: 0-1.99. with automatic zeroing.

SPI3832



Spares:

CO04554
SPI3835

Acrylic cuvettes
Spare bulb



CAN'T FIND IT?

PLEASE CALL
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we can supply most chemicals
and scientific equipment

SPHERES

SPHERES, GLASS in packs of 500g.

SPI3840 ① 3mm dia.
SPI3842 5mm dia.
SPI3844 8mm dia.

SPHERES, POLYSTYRENE

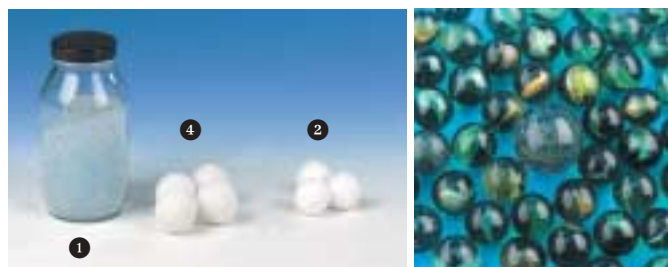
SP30851 ② 19mm dia.
SP30852 25mm dia.
SP30853 32mm dia.
SP30854 38mm dia.

MARBLES, Coloured glass. Pack of 100 standard 17mm marbles and one large 25mm marble.

SPI3850 ③

TABLE TENNIS BALLS. 38mm dia.

SPI3852 ④



BALL BEARINGS. Chrome plated steel.

	Diameter	Pack Size
SPI3854 ⑤	6mm	100
SPI3855	12mm	10
SPI3856	16mm	0
SPI3857	20mm	5
SPI3858	25mm	5



SPRINGS

SPRINGS, EXTENSION, STEEL. Closely wound 6mm dia. with loops at each end. Length 225mm.

SPI3860 ⑥

SPRINGS, EXTENSION, STEEL for demonstrating Hooke's Law. Size 55 x 15mm dia.

SPI3863 ⑦

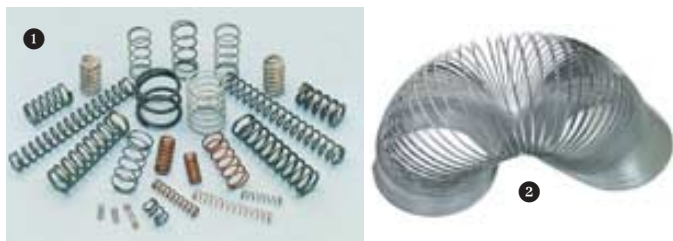


SPRINGS, mixed pack of 100 (approx.) springs of various lengths and diameters.

SP13864 ①

WIRE HELIX (SLINKY). Flat section steel wire in helical coil. Diameter 75mm.

SP13866 ② Closed length 50mm.
SP13867 Closed length 100mm.



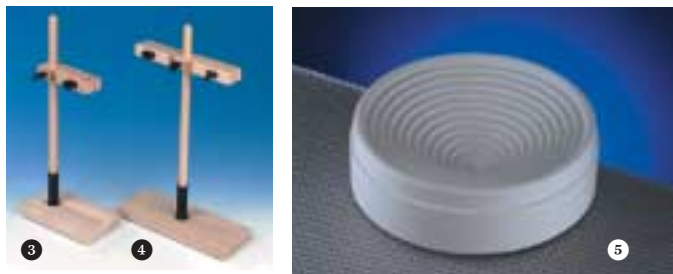
STANDS

BURETTE AND FUNNEL STANDS. Hardwood complete with base and rod. All parts are interchangeable. Burette clamps are cork lined, and funnel holders are slotted.

Stand
ST13900 ③ Single Burette
ST13905 ④ Double Burette
ST13910 Single Funnel
ST13915 Double Funnel

FLASK STAND, Polypropylene. It will support round bottomed flasks up to 10Lt on its internal steps, and will withstand 100°C continuously or 120°C for short periods. Autoclavable. Size: 160mm dia. x 49mm high with 10 internal steps.

ST13920 ⑤



CORK RINGS - See Page 31



FUNNEL HOLDER, Polypropylene. Single or double holder for funnels as small as 25mm (with adaptor supplied) and up to 170mm.

Without adaptor can be used with powder funnels with stem diameter not exceeding 35 mm. Two 'olives' provided for use with rods from 8-14mm.

ST13921 ⑥

Single

ST13922 ⑦

Double

SEPARATING FUNNEL HOLDER, Polypropylene. Horseshoe funnel holder especially for separating funnels. Supplied with two 'olives' so will fit supporting rod diameters 8 to 14mm. Cannot be used with funnels below 75mm diameter

ST13923 ⑧

PIPETTE STAND. Hardwood to hold 12 pipettes horizontally.

ST13925 ⑨

PIPETTE STAND. Polypropylene, to hold 12 pipettes up to 15mm dia and a further 32 up to 10mm dia vertically.

ST13930 ⑩



PLATFORM STAND (Laboratory jack). Adjustable height max. 29cm. Aluminium with stainless steel operating screw top plate with 10mm tapped hole in right rear corner for accepting retort rods. Both plates are anodised.

ST13933 ⑪ 100 x 100mm

ST13935 150 x 150mm

ST13940 200 x 200mm



RETORT STANDS

RETORT STAND BASES. Pressed steel finished in blue, with tapped hole. 10x1.5mm and rubber feet (without rod).

ST13941	①	160 x 100mm
ST13942		200 x 125mm
ST13943		250 x 160mm

RETORT STAND BASES. Heavy duty Iron with grey stove enamel finish. All bases have the rod hole tapped, 10x1.5mm (without rod).

ST13950	②	160 x 100mm
ST13955		200 x 125mm
ST13960		250 x 160mm
ST13965		315 x 200mm



RETORT STAND BASES. 'A' SHAPE. Iron with stoved enamel finish, with tapped rod hole, 10 x 1.5mm. Length of side 200mm.

ST13972 ③

RETORT STAND BASES. TRIPOD PATTERN. Iron with stoved enamel finish, with central rod hole, tapped 10 x 1.5mm, with rubber feet. Size given is length of foot to the rod.

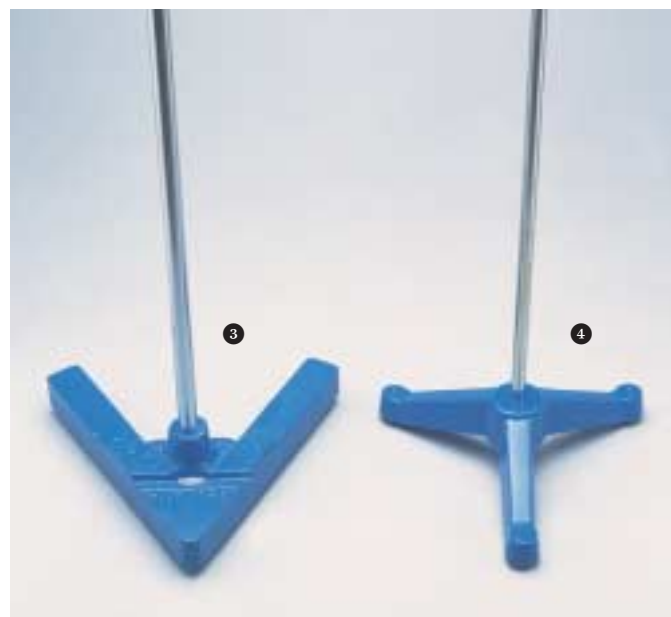
ST13974	④	110mm
ST13976		135mm

RETORT RODS. Mild steel plated, screwed 10 x 1.5mm.

ST14000	Length	500mm
ST14005	Length	600mm
ST14010	Length	750mm
ST14015	Length	1000mm

RETORT RODS. Aluminium alloy, bright finish. Screwed 10 x 1.5mm.

ST14020	Length	500mm
ST14025	Length	600mm
ST14030	Length	750mm



STAND ACCESSORIES:

BOSSHEAD Diecast alloy, with nickel plated clamping screws. Suitable for rods up to 16mm diam.

ST14038	⑤	Bosshead
ST14040	⑥	Bosshead, economy



CLAMP. Diecast body with aluminium rod and nickel plated brass tommy screw. Cork lined jaws opening to 95mm.

ST14045 ⑦

CLAMP. Three prong, alloy with rubber covered jaws opening to 70mm.

ST14050 ⑧



CLAMPS, Economy range.

ST14053	⑨	Cork lined jaws
ST14054	⑩	Rubber covered jaws

CLAMP BEAKER. Alloy and stainless steel with asbestos covered jaws. Accepts articles up to 175mm diam.

ST14055 ⑪



CLAMP BURETTE. A one piece clamp moulded from acetal homopolymer to hold a 50ml Burette.

ST14060 ①

CLAMP BURETTE. Polypropylene.

ST14062 ② Single

ST14063 ③ Double



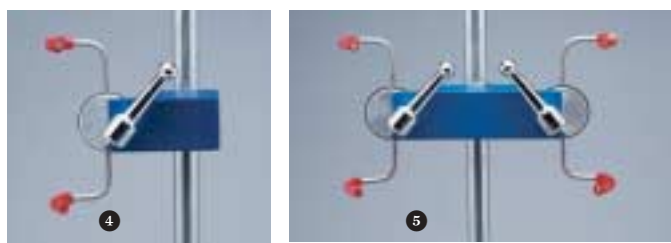
CLAMP BURETTE. Non-corrodible metal/light alloy, grey hammered, stove enamel with nickel plated parts. For one or two burettes. Complete with universal bosshead.

ST14065 ④ Single

ST14070 ⑤ Double

CLAMPS, BURETTE, DOUBLE. A new pattern unit comprising a high strength alloy casting with plastic jaws. Suitable for all burettes up to 100ml, capacity.

ST14075 ⑥



PLATES. Steel with grey hammered stove enamel finish. 100mm diam. support rod, 135mm long x 8mm diam.

ST14085 ⑦

RINGS. Plated mild steel, plain 8mm diam. stem for use with separate bosshead.

ST14100 ⑧ 50mm I.D.

ST14105 75mm I.D.

ST14110 100mm I.D.



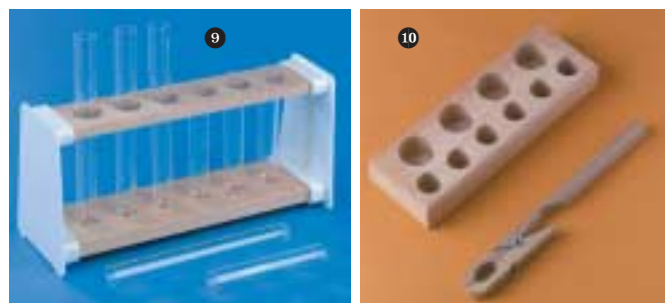
TEST TUBE STANDS

TEST TUBE RACK. Hardwood with polypropylene ends.

	No. of holes		No. of Pegs.
	22mm	32mm	
ST14140 ⑨	6	0	0
ST14145	6	0	6
ST14146	4	2	0
ST14150	0	6	0
ST14155	12	0	0
ST14160	12	0	12

TEST TUBE STAND - NUFFIELD. Hardwood block 170 x 60 x 25mm with 10 holes, 4 x 25mm and 6 x 17mm

ST14162 ⑩

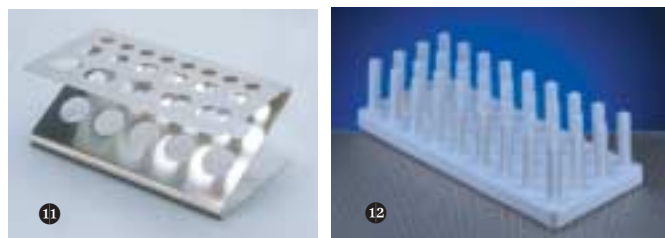


TEST TUBE STAND. Aluminium, stackable 'Z' shape with five 28mm, six 19mm and eight 13mm diam. holes arranged in three rows.

ST14165 ⑪

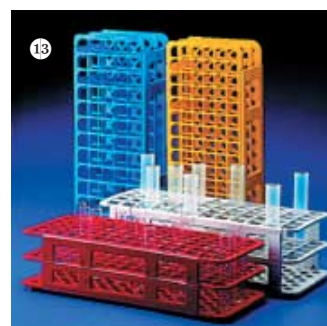
TEST TUBE STANDS, 'Azlon'. Polypropylene 'Peg Forest' pattern. Autoclavable. 36 pegs giving 25 holes for 10-13mm dia. tubes.

ST14170 ⑫



TEST TUBE RACK, Polypropylene. Large capacity racks. Autoclavable at 121°C for 20min. Can be used dry, wet or in water-baths. Will not float. Alpha numerical grid reference on top tier for easy identification of samples.

	Tube Diam	No. of Holes
ST14180 ⑬	13mm	90
ST14182	16mm	60
ST14184	20mm	40
ST14186	25mm	40
ST14188	30mm	24



TEST TUBE STANDS, Rigid polythene. Simple three-tier racks to take two rows of tubes.

- ST14200** ① 12 x 13mm dia. holes.
ST14205 12 x 21mm dia. holes.

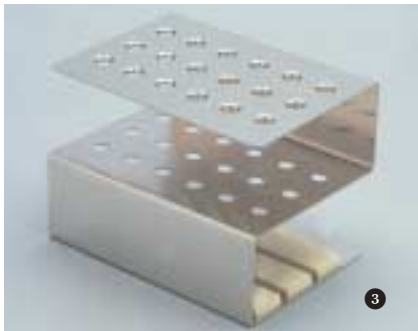
TEST TUBE RACKS, Nylon coated steel wire. Will withstand autoclaving up to 120 ° C.

	Tube Diam	No. of Tube Places
ST14220 ②	13mm	36
ST14225	16mm	12
ST14230	16mm	24
ST14235	20mm	18
ST14240	20mm	36
ST14245	25mm	12



THERMOMETER STAND, Aluminium. Supports 18 thermometers with protective foam cushion on the base. Size: 165 x 120 x 125mm.

ST14255 ③



TRIPOD STANDS

TRIPOD STAND. Nickel plated steel rod, triangular top with plastic feet.

- ST14260** ④ 125 x 200mm High
ST14261 150 x 200mm High

TRIPOD STAND. Stainless steel rod, triangular top with plastic feet. 125mm x 210mm high.

ST14262 ⑤

TRIPOD STAND. Steel, Height 200mm. 125mm triangular flat top.

ST14265 ⑥



STATIONERY

PAPER, A4 REFILL PAD. A pack of 200 sheets feint ruled both sides, and margin. Punched with 2 holes.

ST14272

GRAPH PAPER. An A4 pad of 50 sheets, printed one side. 1, 5, 10mm grid. Punched with 4 holes.

ST14274

RING BINDER. A two ring polypropylene binder, A4 size. 25mm capacity.

ST14276

REINFORCED POCKETS. Clear polypropylene A4 pockets with top opening and multi punched reinforced spine.

ST14278

CLIPBOARD. Sturdy fooscap PVC covered board with strong spring clip and pen holder.

ST14280 ⑦

CHINAGRAPH PENCILS - See Page 86

COLOURING PENCILS. Non-toxic colour pencils for class use with wide colour strip. Supplied in packs of 10 assorted coloured.

ST14286 ⑧

COLOUR PENS 'Berol'. Tough nylon fibre tipped pens. Bright waterbased ink. In wallets of 12 assorted colours.

- ST14290** Fine tip, 0.6mm line width
ST14291 Broad tip, 1.7mm line width

HIGHLIGHTERS 'Stabilo Boss'. Super plus fluorescent markers. Supplied in wallets of 6 assorted colours.

ST14292 ⑨



DRAWING PINS. All metal drawing pins with 11mm dia. head. In boxes of 150.

ST14294

PAPER CLIPS. Large 33mm metal clip in boxes of 1000.

- ST14295** Plain
ST14296 Coloured



RUBBER BANDS. A 450g box of assorted rubber bands.

ST14297 ⑩

SINGLE HOLE PUNCH 'Rexel'. 6mm hole, 8 sheet capacity.
ST14298



STENCILS

STENCIL. Chemistry, tinted plastic, 31 shapes, 188 x 117mm.
STI4300 ①

STEP LADDERS

LABORATORY STEP LADDER. Lightweight aluminium step ladder with three steps and top platform and non-slip buffers on legs. Height to platform 870mm.
STI4310

STIRRERS

STIRRER 'Stuart' SSI0'. An easy to use general purpose overhead stirrer for use with upto 15Lts of aqueous and low viscosity liquids. Good speed control and overload protection. Speed range: 100-2000rpm. Size: 85 x 175 x 230mm. complete with 350mm s/s rod and small paddle head. For 220/240V.
STI4326 ②

MAGNETIC STIRRER. A variable speed stirrer from 100 to 1000 r.p.m. depending on load. In a chemical resistant ABS case. Size 150x100x50m. For 220/240V.
STI4332 ③



MAGNETIC STIRRER, ROUND 'Hanna'. A reliable low cost magnetic stirrer with an impact and chemically resistant ABS case. Variable speed from 100 to 1000 r.p.m. with an optical speed sensor control. Max stirring capacity 1Lt. Size: 51mmx137mm dia. For 220/240V. Complete with stirring bar. Available in 4 colours.

- ST29000** ④ Yellow
- ST29005** Green
- ST29006** Light Blue
- ST29007** Dark Blue

MAGNETIC STIRRER 'Hanna'. A variable speed stirrer from 100 - 1000rpm. depending on load. In chemical resistant ABS plastic case. Max stirring capacity 1Lt. Size 120 x 120 x 45mm. For use on 220/240V.

- STI4336** ⑤ Stirrer
- STI4337** ⑥ Stirrer with stainless steel cover



MAGNETIC STIRRER, as previous except Max stirring capacity 2.5Lts with stainless steel cover. Size 180 x 180 x 70mm.

STI4338 ⑦

MAGNETIC STIRRERS 'Stuart'. A choice of 2 general purpose stirrers with a cast aluminium body. Variable speed 100-1500rpm. Size of plate: 160 x 160. Maximum stirring capacity 15Lt. Overall size: 190 x 300 x 110mm. Supplied complete with 2 x 25mm P.T.F.E. coated stirring bars. For 220/240V.

- STI4342** ⑧ SBI61 with Stainless Steel Plate
- STI4344** ⑨ CBI61 with Glass Ceramic Plate



MAGNETIC STIRRER/HOTPLATE 'Stuart' SBI62. A general purpose stirrer/hotplate with a cast aluminium body and a robust aluminium/silicon alloy top plate 160 x 160mm. Fitted with a HOT warning light. Variable stirring speed 100-1500rpm. Max stirring capacity 15Lt. Max temperature 325°C. Power rating 750W. Size: 190 x 300 x 110mm. Supplied complete with 2 x 25mm P.T.F.E. coated stirring bars. For 220/240V.

STI14350 ①

MAGNETIC STIRRER/HOTPLATE 'Stuart' CBI62. An economical Stirrer/Hotplate with a cast aluminium body and a glass ceramic top plate 160 x 160mm. Fitted with HOT warning light. Variable stirring speed 100-1500rpm. Max. stirring capacity 15Lts. Max. temperature 450°C. Heated area 120 x 120mm. Power rating 500W. Size 190 x 300 x 110mm. Supplied complete with 2 x 25mm P.T.F.E. coated stirring bars. For 220/240V.

STI14352 ②



STIRRING ACCESSORIES

STIRRING BARS (FOLLOWERS). Magnetic, encased in PTFE. with centre rim.

STI14420 ③

Length 12mm

STI14425

Length 25mm

STI14430

Length 45mm

STI14435

Length 60mm

STIRRING BARS, MAGNETIC. Encased in P/P. with centre rim.

STI14440

Length 12mm

STI14445

Length 25mm

STI14450

Length 45mm

STIRRING BAR RETRIEVERS. Magnetic, PTFE coated stirring bar. 350mm long.

STI14470 ④



STOPPERS

RUBBER STOPPERS, SOLID. Each stopper has a moulded-in number corresponding to the bottom diameter in millimetres to BS2775.

	Bottom Diam.	Top Diam.	Pack Size
STI14605/S	5mm	7mm	10
STI14606/S	6mm	8mm	10
STI14607/S	7mm	9mm	10
STI14608/S	8mm	10.5mm	10
STI14609/S	9mm	11.5mm	10
STI14610/S	10mm	12.5mm	10
STI14611/S	11mm	14mm	10
STI14613/S	13mm	16mm	10
STI14615/S	15mm	18mm	10
STI14617/S	17mm	20.5mm	10
STI14619/S	19mm	22.5mm	10
STI14621/S	21mm	24.5mm	10
STI14623/S	23mm	26.5mm	10
STI14625/S	25mm	28.5mm	10
STI14627/S	27mm	31mm	10
STI14629/S	29mm	33mm	10
STI14631/S	31mm	36mm	10
STI14633/S	33mm	38.5mm	10
STI14635/S	35mm	40.5mm	10
STI14637/S	37mm	42.5mm	10
STI14639/S	39mm	44.5mm	10
STI14641/S	41mm	47mm	Each
STI14643/S	43mm	49mm	Each
STI14645/S	45mm	51mm	Each
STI14649/S	49mm	55mm	Each
STI14653/S	53mm	59.5mm	Each
STI14657/S	57mm	64mm	Each
STI14662/S	62mm	69mm	Each
STI14671/S	71mm	78mm	Each

RUBBER STOPPERS, 1 HOLE. Prices and sizes same as solid stoppers. When ordering, please change the suffix to the catalogue no. from /S to /1H.

RUBBER STOPPERS, 2 HOLE. Available for stoppers No.15 to 71. Prices same as solid stoppers. When ordering please change suffix to the catalogue no. from /S to 2H.



RUBBER STOPPERS. Assorted packs. Solid. Containing the following: 5 each of Nos. 7, 8, 9, 10, 11, 13, 15, 17, 19, 21 & 23. 2 each of Nos. 25, 27, 29, 31, 33 & 35.

STI14680

RUBBER STOPPERS. Assorted packs. 1 Hole. Sizes as STI14680.

STI14685

RUBBER STOPPERS. Assorted packs. 2 Hole. Containing the following: 5 each of Nos. 15, 17, 19, 21, 23, 25, 27, 29, 2 each of Nos. 31, 33, 35 and 37.

STI14690

RUBBER SUBA-SEAL STOPPERS. With turnover flange and serrations to grip the inside of narrow neck containers.

	Size No.	Base Diam.	Pack Size
ST14700 ①	9	6.5mm	10
ST14705	13	8mm	10
ST14710	17	9.5mm	10
ST14715	21	11mm	10
ST14720	25	12.5mm	10
ST14725	29	14mm	10

STOPPERS. Plastic for reagent bottles etc.

	Stopper size
ST14730 ②	14.5/23
ST14731	16/16
ST14732	19/17
ST14733	19/26
ST14734	24/20
ST14735	24/29
ST14736	29/32



STORAGE

STORAGE CUPBOARDS, STEEL. Designed to provide safe storage of flammable liquids, chemicals and other hazardous substances. Manufactured in sheet steel with welded seams. Complete with three-point locking handle and removable spillage tray. Flammable cupboards are finished in Yellow, Acid and Alkali in White.

Flammable:-

	HxWxD (mm)	No. of Shelves	No. of Doors
ST14750	915x460x460	1	1
ST14751	915x915x460	1	2
ST14752	710x915x460	1	2
ST14753	1830x915x460	3	2



Acid and Alkali:-

	HxWxD (mm)	No. of Shelves	No. of Doors
ST14755	915x460x460	1	1
ST14756	710x915x460	1	2
ST14757	915x915x460	1	2
ST14758	1830x915x460	3	2

POISONS CUPBOARD. Wall mounting, constructed of sheet steel and finished in stove enamel, with three adjustable shelves and lockable door. The door which has concealed hinges is recessed for added security. External dimensions 610(H)x455(W)x155(D)mm.

ST14760



STRING

STRING. White cotton twine in 125g balls.

ST14780 ③	String 1mm dia.
ST14781 ④	String 2mm dia.



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SYRINGES

SYRINGES, HYPODERMIC, DISPOSABLE. Sterile, plastic, individually packed and graduated. Luer fitting.

Capacity	
SY14800 ①	1ml
SY14805	2ml
SY14810	5ml
SY14815	10ml
SY14820	20ml
SY14825	60ml
SY14801	
SY14806	
SY14811	
SY14816	
SY14821	
SY14826	



SYRINGES, HYPODERMIC. GLASS. Luer fitting, interchangeable pistons and barrels.

Capacity	
SY14829 ②	1ml
SY14830	2ml
SY14835	5ml
SY14840	10ml
SY14845	20ml
SY14850	50ml*
SY14855	100ml*

*With metal tip

SYRINGE, GLASS for gas chromatography. Capacity 100ml.
SY14858



HYPODERMIC NEEDLES; DISPOSABLE. Sterile, individually packed with Luer fitting. In packs of 100.

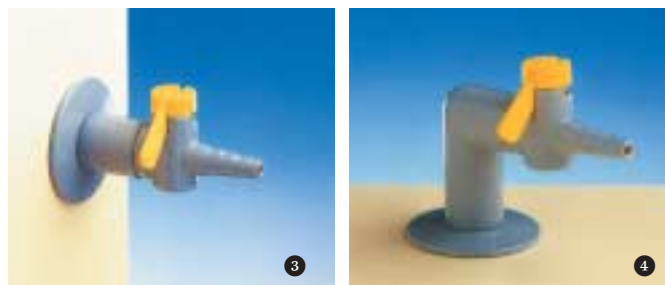
	Size No.	Gauge	Length
SY14861	1	21	38mm
SY14871	15	23	25mm
SY14881	20	25	16mm

TAPS

TAPS. A range of laboratory bench taps, constructed from brass and finished in a grey plastic coating with colour coded controls, and are fitted with an anti-rotation pin.

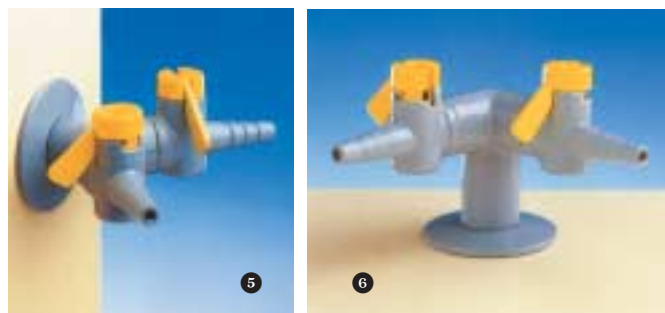
GAS TAPS - SINGLE. For natural gas. BSP 3/8" male thread, drop lever.

TA14900 ③	Horizontal wall mounting
TA14902 ④	Vertical bench mounting



GAS TAPS - TWO WAY. For natural gas. BSP 3/8" male thread. Outlets are 90° apart. Drop lever.

TA14904 ⑤	Horizontal wall mounting
TA14905 ⑥	Vertical bench mounting



GAS TAPS - FOUR WAY. For natural gas. BSP 3/8" male thread. Outlets are 90° apart. Drop lever.

TA14908 ⑦	Vertical bench mounting
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WATER TAPS. BSP 1/2" male thread inlet for vertical bench mounting. For use with hot or cold water.

- TA14910 ① Single swan-neck - Fixed
- TA14912 ② Single pillar bib tap
- TA14914 ② Two-way pillar bib tap
- TA14916 Three-way pillar bib tap
- TA14918 ③ Mixer tap with swivel swan-neck



TEST TUBES

TEST TUBES 'Samco', Soda Glass. Normal wall with rim. To BS 3218 Light Wall.

	Size (mm)	Pack Size	Wall thickness (mm)
TE15000	50 x 6	250	0.45
TE15005	50 x 10	250	0.6
TE15010	75 x 10	100	0.6
TE15015	75 x 12	100	0.6
TE15020	100 x 12	100	0.6
TE15026	100 x 16	100	0.6
TE15030	125 x 16	100	0.6
TE15035	125 x 18	100	0.6
TE15040	150 x 16	100	0.6
TE15045	150 x 18	100	0.6
TE15050	150 x 24	50	0.8



TEST TUBES 'Samco', Soda Glass. Medium wall, rimless. Bacteriological. Wall thickness 1.0mm

	Size (mm)	Pack Size
TE15060	75 x 10	100
TE15065	75 x 12	100
TE15070	100 x 12	100
TE15075	125 x 16	100
TE15080	150 x 16	100
TE15085	150 x 18	100
TE15086	150 x 24	50

TEST TUBES, 'Samco', Neutral Borosilicate Glass. Light wall with rim. Thermal shock resisting. Wall thickness 0.8mm.

	Size (mm)	Pack Size
TE15100	75 x 10	100
TE15102	75 x 12	100
TE15105	100 x 12	100
TE15108	100 x 16	100
TE15110	125 x 16	100
TE15115	150 x 16	100
TE15120	150 x 18	100
TE15125	150 x 24	50

TEST TUBES, 'Samco', Neutral Borosilicate Glass. Medium wall with rim. Thermal shock resisting.

	Size (mm)	Pack Size	Wall thickness (mm)
TE15135	75 x 10	100	1.0
TE15138	75 x 12	100	1.0
TE15140	100 x 12	100	1.0
TE15145	100 x 16	100	1.2
TE15150	125 x 16	100	1.2
TE15155	150 x 16	100	1.2
TE15160	150 x 18	100	1.2
TE15165	150 x 24	50	1.2



TEST TUBES, 'Samco', Borosilicate Glass. Medium wall with rim.

	Size (mm)	Pack Size	Wall thickness (mm)
TE15170	75 x 10	100	1.0
TE15171	75 x 12	100	1.0
TE15172	100 x 12	100	1.0
TE15173	100 x 16	100	1.2
TE15175	125 x 16	100	1.2
TE15176	150 x 16	100	1.2
TE15177	150 x 18	100	1.2
TE15180	150 x 24	50	1.2

TEST TUBES, 'Samco', Borosilicate Glass. Heavy wall with rim.

	Size (mm)	Pack Size	Wall thickness (mm)
TE15200	75 x 10	100	1.5
TE15201	75 x 12	100	1.5
TE15202	100 x 12	100	1.5
TE15205	125 x 16	100	1.8
TE15206	150 x 16	100	1.8
TE15207	150 x 18	100	1.8
TE15210	150 x 24	50	1.8

TEST TUBE, 'Pyrex' Glass. Medium wall with rim.

	Size (mm)	Pack Size	Wall thickness (mm)
TE15220	75 x 10	100	1.0
TE15225	75 x 12	100	1.0
TE15230	100 x 12	100	1.0
TE15235	100 x 16	100	1.2
TE15240	125 x 16	100	1.2
TE15245	150 x 16	100	1.2
TE15250	150 x 18	100	1.2
TE15255	150 x 24	100	1.2

TEST TUBES, 'Pyrex' Glass. Without rim. Prices and sizes as per rimmed tubes. Please suffix catalogue No: 'R' for Rimless

TEST TUBES, 'Pyrex'. Heavy wall with rim.

	Size (mm)	Pack Size	Wall thickness (mm)
TE15260	75 x 10	100	1.5
TE15265	75 x 12	100	1.5
TE15270	100 x 12	100	1.5
TE15275	125 x 16	100	1.8
TE15280	150 x 16	100	1.8
TE15285	150 x 18	100	1.8
TE15290	150 x 24	100	1.8



TEST TUBES, Durham. Soda glass To BS625. Wall 0.6/0.7mm.

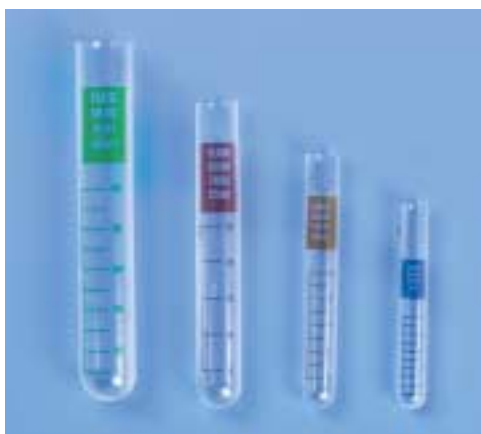
	Size (mm)	Pack Size
TE15300	30 x 6.5	250
TE15305	35 x 7.5	250
TE15310	50 x 7.5	250

TEST TUBES, Polystyrene. Clear rimless polystyrene tube with round bottom.

	Size (mm)	Pack size
TE15326	75 x 12	100
TE15328	100 x 16	100
TE15330	125 x 16	100

TEST TUBES, GRADUATED. Borosilicate glass, rimless test tubes with nominal graduations.

	Graduations	Size
TE15340	5 x 1ml	100 x 14mm
TE15341	10 x 1ml	125 x 17mm
TE15342	25 x 5ml	150 x 22mm
TE15343	50 x 5ml	175 x 28mm



TEST TUBE HOLDERS

TEST TUBE HOLDER. Wood with steel spring. For tubes up to 19mm diameter.

TE15350 ①

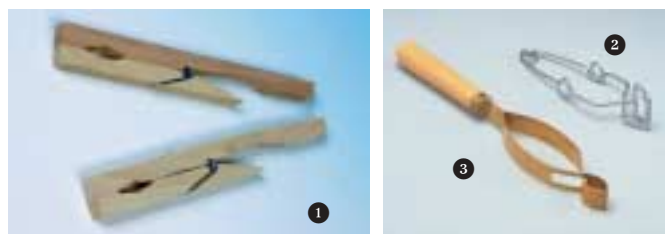
TEST TUBE HOLDER. Plated, spring steel. Will hold tubes up to 30mm diameter.

TE15355 ②

TE15356

TEST TUBE HOLDER. Brass, with wooden handle. For tubes up to 45mm diameter.

TE15360 ③



THERMOMETERS

GENERAL PURPOSE THERMOMETERS. Engraved stem, calibrated for 76mm immersion. White enamel back. Length 300mm, diameter 6mm. Mercury filled.

Range °C

TH15400	-10 to 110 x 0.5
TH15405	-10 to 150 x 1
TH15410	-10 to 200 x 1
TH15415	-10 to 250 x 1
TH15420	-10 to 360 x 2

TH15401
TH15406
TH15411
TH15416
TH15421

STIRRING THERMOMETER. Blue Spirit. Calibrated for 76mm immersion. White enamel back with reinforced bulb.

Range °C

Length

TH15425	-10 to 110 x 1	152mm
TH15427	-10 to 110 x 1	305mm

TH15426
TH15428



STIRRING THERMOMETER. Red spirit filled and calibrated for 76mm immersion. White enamel back with reinforced bulb.

Range °C

Length

TH15430	-10 to 50 x 0.5	305mm
TH15432	-10 to 110 x 1	152mm
TH15435	-10 to 110 x 1	205mm
TH15440	-10 to 110 x 1	305mm
TH15445	-10 to 150 x 1	305mm

TH15431
TH15433
TH15436
TH15441
TH15446

STIRRING THERMOMETER. Mercury filled, calibrated for total immersion. Yellow enamel back with reinforced bulb. Length 152mm, diam. 6mm.

Range °C

TH15450	-10 to 110 x 1
TH15455	-10 to 50 x 1
TH15460	-10 to 250 x 5
TH15465	-10 to 360 x 5

TH15451
TH15456
TH15461
TH15466

STIRRING THERMOMETER. As TH15450/65 but length 300mm.

	Range °C	
TH15475	-10 to 110 x 1	TH15476
TH15480	-10 to 50 x 1	TH15481
TH15485	-10 to 250 x 1	TH15486
TH15490	-10 to 360 x 2	TH15491

STIRRING THERMOMETERS, 'Economy'. Range -10 to 110 x 1°C.

	Type	Length
TH15493	Mercury Filled	150mm
TH15494	Mercury Filled	300mm
TH15495	Green Spirit	150mm
TH15497	Green Spirit	200mm
TH15499	Green Spirit	300mm

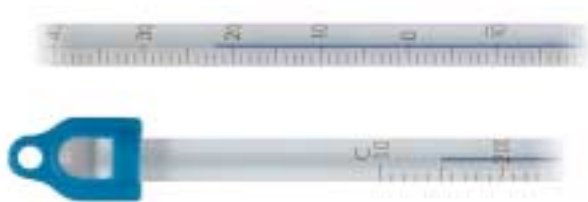


STIRRING THERMOMETER. Ungraduated, green spirit, waterboil range. Length 300mm.

TH15501

THERMOMETERS, LOW TOXICITY. A range of laboratory thermometers with a blue environmentally friendly filling. An ideal substitute for mercury filled thermometers.

	Range °C	Length mm	Immersion
TH29500	-10 to 50 x 0.5	305	Partial 76mm
TH29502	-35 to 50 x 1.0	305	Partial 76mm
TH29504	-20 to 110 x 1.0	305	Partial 76mm
TH29506	-20 to 150 x 1.0	305	Partial 76mm
TH29508	-10 to 260 x 1.0	405	Partial 76mm
TH29510	-10 to 300 x 1.0	305	Partial 76mm
TH29520	-10 to 50 x 0.5	305	Total
TH29522	-35 to 50 x 1.0	305	Total
TH29524	-10 to 110 x 1.0	155	Total
TH29526	-20 to 110 x 1.0	305	Total
TH29528	-20 to 150 x 1.0	305	Total
TH29530	-10 to 210 x 1.0	405	Total



PRECISION THERMOMETER. Low Toxicity. Total immersion, Environmentally friendly filling

	Range °C	Length
TH15550	-1 to 51 x 0.1	405mm
TH15552	-1 to 51 x 0.2	405mm
TH15504	-1 to 101 x 0.2	405mm

PRECISION THERMOMETERS. Total immersion, yellow background with Celsius calibrations. Mercury filled.

	Range °C	Length
TH15540	-1 to 51 x 0.1	355mm
TH15545	-1 to 51 x 0.2	355mm
TH15546	-1 to 101 x 0.2	460mm

CLINICAL THERMOMETERS. Mercury in glass, engraved stem, lens front, stubby bulb, constricted bore pattern. In plastic case with screw cap.

	Range	
TH15560 ①	35 to 42°C	TH15561
TH15565	95 to 107°F & 35 to 42°C	TH15566

CLINICAL EAR THERMOMETER, Digital. A battery operated electronic ear thermometer which is suitable for all ages. Features include: One second measuring time, beeps when temperature reached dual range, stores last 5 readings, auto-shut off, and full instructions. Range 0 to 50°C or 32 to 122°F. Supplied in a case with set of disposable probe covers.

TH15567 ②	Ear Thermometer
TH15568	Spare probe covers



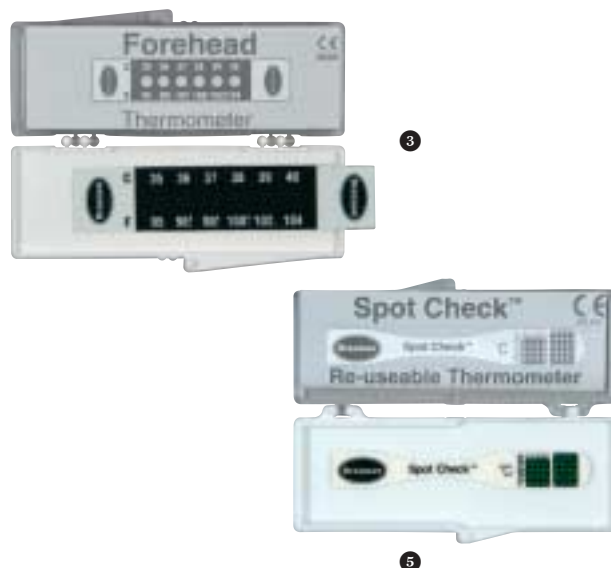
CLINICAL THERMOMETER, 'Fever Strip' Digital Forehead Strip. TH15570 ③

CLINICAL THERMOMETER, Digital. Buzzer sounds when temperature is reached. Range 32 to 43 x 0.1°C. Complete with battery and plastic case.

TH15572 ④

CLINICAL THERMOMETER 'Spot Check'. A safe re-useable substitute for the traditional glass thermometer. Range 35.5 to 41.9 x 0.1°C. Complete with instructions.

TH15574 ⑤

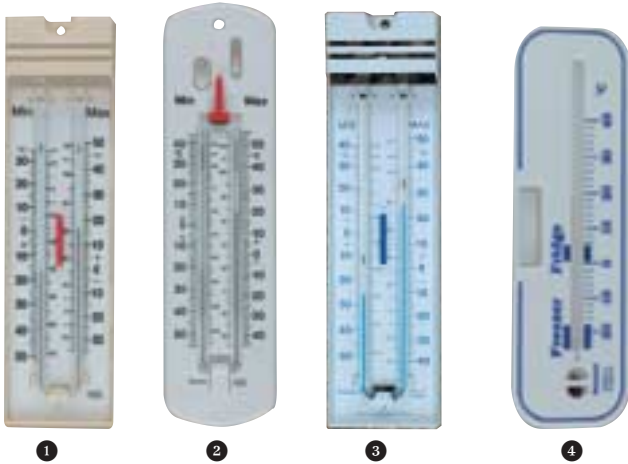


MAXIMUM/MINIMUM THERMOMETER. White plastic body, wall mounting with simple press button reset. Range: -30 to 50°F and 20 to 120°C
THI5582 ①

MAXIMUM/MINIMUM THERMOMETER. Slimline, lightweight white plastic body with separate slot-in resetting magnet. Range -30 to 50°C and -20 to 120°F.
THI5584 ②

MAXIMUM/MINIMUM THERMOMETER. Mercury free.
 A traditional Maximum/Minimum thermometer with an environmentally friendly filling with a simple press button reset. Range: -40 to 50°C
THI5586 ③

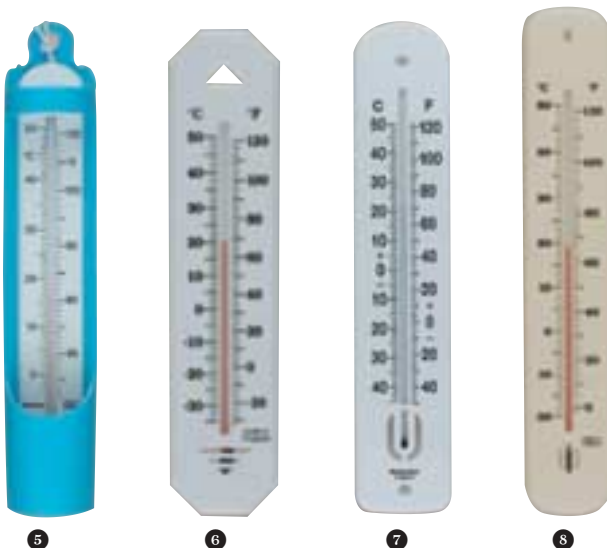
FREEZER AND REFRIGERATOR THERMOMETER. Horizontal white plastic thermometer with red zoned scale, to hang or stand. Range: -20 to 40°C.
THI5618 ④



SCOOP THERMOMETER. For testing water temperature of swimming pools, ponds etc. Range: -10 to 50°C and 20 to 120°F.
THI5620 ⑤

WALL THERMOMETER. Plastic body. Spirit filled. Dual scale -30 to 50°C and -20 to 120°F
THI5621 ⑥ Length 175mm
THI5622 ⑦ Length 215mm

WALL THERMOMETER. Giant 380mm white plastic body. Spirit filled. Dual scale. -40 to 50°C and -40 to 120°F.
THI5624 ⑧



WINDOW THERMOMETER. For measuring the outside temperature from the warmth of the classroom. Size: 65mm dia. Range: -20 to 50°C.
THI5628 ⑨

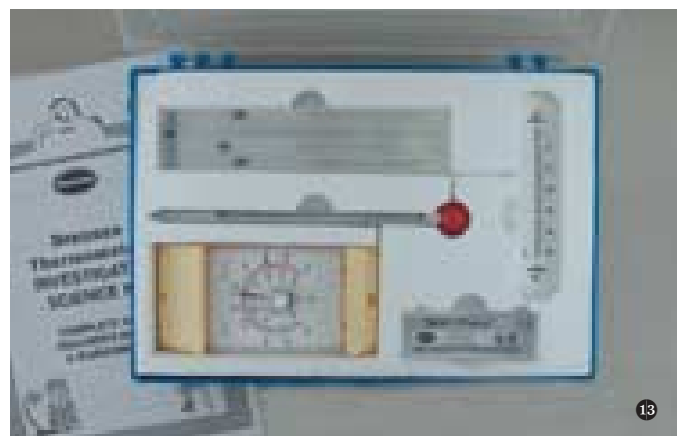
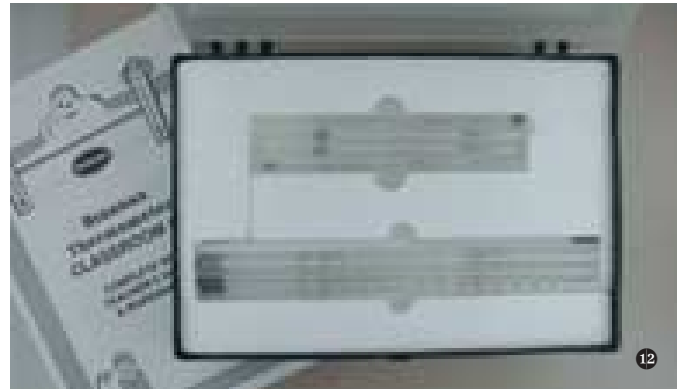
TOUGH THERMOMETERS, 'Invicta'. L.C.D. Thermometer designed for Primary Schools. Shows centigrade scale reading from -5° to 40°C in 5°C increments or descriptive reading from hotter to colder. Length 180mm. Supplied with project card.
THI5630 ⑩ **Numeric**
THI5631 ⑪ **Descriptive**



THERMOMETER KITS

THERMOMETERS, CLASSROOM KIT. Containing 8x150mm Greenfill thermometers -10 to 110°C, 7x300mm Greenfill thermometers -10 to 110°C, 1x300mm ungraduated thermometer, 1 set of Teachers' notes and a worksheet booklet.
THI5635 ⑫

TEMPERATURE INVESTIGATION KIT. Containing 4x150mm and 4x200mm Greenfill thermometers -10 to 110°C, 2 wall thermometers, 1 spot-check clinical thermometer, 1 dial max/min thermometer, 1 soil thermometer, 1 set of Teachers' notes and a worksheet booklet.
THI5637 ⑬



DIGITAL THERMOMETERS

DIGITAL STICK THERMOMETER. 'CHECKTEMP'. Pocket thermometer with fixed stainless steel probe. Range -20 to 120°C x 0.1°C. Accuracy: 0.2°C. Size: 66 x 50 x 25mm. Probe 100mm. Supplied with battery. **THI5642** ①

DIGITAL STEM THERMOMETERS. An ideal range of low cost thermometers for the education market. The stainless steel probe has a pointed tip and the head is of ABS plastic with a clear 12mm LCD display and two function switches on/off and test/hold. Temperature range: -50 to +200 x 0.1°C. Two styles are available - Pen Type or T-Bar. Supplied complete with probe protector sheath and 1 x SR44 Cell.

- THI5656** ② Pen Type with 125 x 4mm probe
- THI5657** ③ T-Bar with 125 x 4mm probe



DIGITAL ALARM THERMOMETER. A 15mm LCD thermometer with high and low temperature alarm program covering the whole temperature range of -50 to +200 x 0.1°C. External stainless steel probe. 125 x 3mm on a 1.5M lead. Size: 99 x 64 x 20mm. Powered by 1 x AAA battery (supplied). **THI5660** ④

DIGITAL DUAL DISPLAY (MIN/MAX) THERMOMETER. A 36mm LCD thermometer with two sensors, both having Min/Max memory. One is mounted into the main unit and the second on a 3M cable. Range: -50 to +70 x 0.1°C. Size: 100 x 75 x 20mm. Powered by 2 x AAA battery (supplied). **THI5664** ⑤



DIGITAL THERMOMETER HI 8757. A high performance thermometer with K-type thermocouple sensor for wide measuring range. Range: -50 to 900°C. Resolution: 0.1°C below 150°C and 1°C over 150°C. Accuracy: ± 0.5% E.S. Powered by 1 x 9V battery. Size: 180 x 83 x 40mm. Supplied without probe.

- THI5670** ⑥ HI8757 Thermometer
- THI5671** General Purpose Probe, 125 x 3.2 dia
- THI5672** REKI Wire Probe with a 1M lead



TIMERS

SAND TIMER 'INVICTA'. Made from tough durable plastic. It is adjustable between 5sec and 3min. Different types of sand and materials such as sugar and flour can be used for investigation. Comes complete with a bag of Silver Sand and project card.

THI5680 ⑦

ROCKING TIMERS 'INVICTA'. Set of 3 adjustable timers for measuring 5, 10, 15 and 20 second intervals. Complete with worksheet.

THI5681 ⑧



WATER TIMERS 'INVICTA'. Set of 3 timers with different sized holes in the lid. Each lid is engraved with the approx time that the pot takes to empty. Complete with worksheet.

THI5685 ⑨

STOPCLOCK. Precision hand wind mechanism, standard pattern school timer, ideal for all kinds of timing experiments. Fitted with large start/stop and reset triggers for easy operation. Large second hand and small minute hand.

TI15695 ①

SCHOOL STOPCLOCK, Digital. A highly accurate quartz stopclock in a robust ABS case with two large stop/start and Reset/split buttons. Clear 15mm LCD display. Capacity 59hrs, 59min, 59secs with a resolution of 1/100sec. for first hour and 1 sec. thereafter. The unit can be used with remote switches, timing gate etc. via the 4mm sockets at the rear of the case. Powered by 1 x AA battery (supplied). Size: 95x90x75mm.

TI15706 ②

TI15707



DIGITAL STOPCLOCK TM20. A competitively priced stopclock featuring large start/stop and reset buttons, clear 12mm LCD display, electrical triggering via 4mm jack plugs and a robust ABS plastic case. Counting up from zero to 23 hours, 59mins 59 secs with a resolution of 1/100th second for first 30mins and 1 sec. thereafter. Powered by 1 x AA battery (supplied). Size: 120 x 105 x 80mm.

TI15710 ③

TI15712

Accessories for TM20 STOP CLOCK

FOOT SWITCH TM20FS. Constructed from heavy duty plastic with a metal base. A 2M connection cable has two 4mm jack plugs which connect to the 'common' and start/stop jack sockets on the stopclock, allowing 'hands-free' operation.

TI30100 ④



LIGHT GATE TM20LG. A precision optical light gate with a positive on/off switch, a green LED light to indicate power - on, a red LED light that will flash when the light beam is broken and 2 robust extension poles which house the light sensors with a 150mm gap. A choice of 3 connecting cables (not supplied) with 4mm stackable jack plugs are available which allows multiple connections of 2/3/4 light gates and/or the TM20FS foot switch. Powered by 1 x 9V PP3 battery (not supplied).

TI30105

Light-gate (without cables)

TI30110

Connecting cable 1M

TI30112

Connecting cable 2M



LABORATORY TIMER. An easy to operate versatile timer which is ideal for use with linear air tracks, 'g' by the freefall, falling bodies etc. The unit is housed in a strong plastic case and has a clear 12.5mm LED display, start, stop, reset and range buttons. The unit comes with a plug top power supply, Ranges 0-9.999 or, 0-99.99 or 0-999.9 seconds. Output 12V dc via 4mm sockets. Input via 4mm sockets.

TI30120



DUAL OPTICAL GATES. High quality photo-gates which can be used in a wide range of experiments from simple timing through investigations into speed, acceleration, kinetic energy etc. Requires a 12V d.c. power supply.

TI30122



COUNT UP/DOWN TIMER. Clear 11mm LCD display. Counting up from zero to 23hrs. 59mins. 59secs. and counting down from 1 sec to 23hrs. 59mins. 59secs. With alarm and memory timer which allows preset time to be recalled and 12 hour am/pm clock function. Size 85(W) x 80(D) x 44(H)mm. Powered by one AA battery (supplied).

TI15714 ⑤

DUAL TIMER TM 15. Counts up to 23 hrs, 59 mins, 59 secs from zero. Counts down on 2 individually programmable channels with preset memories from 23 hrs, 59 mins, 59 secs each with an alarm. Resolution: 1 sec over full range. Size 90 x 68 x 20 mm. Powered by 1 x 1.5V AAA battery (supplied).

TI15720 ⑥



STOPWATCH. General purpose, triple acting, giving a reading in minutes, seconds and fifths of a second. Jewel movement in chromium plated case.

TII5725 ① Recording up to 60 minutes



DIGITAL STOPWATCH TMI36. Clear 8mm LCD display containing the following features: 23hr, 59min 59sec stopwatch capacity. Resolution 1/100th sec for first 30mins and 1 sec thereafter. Stop, start, reset and split facilities. Complete with battery and neck band.

TII5728 ②
TII5729

DIGITAL STOPWATCH TM308. Clear 12mm LCD display. Specification as TII5728 above.

TII5730 ③

DIGITAL STOPWATCH 7376R 60 LAP MEMORY. Clear 23mm, 3 line LCD display containing the following features:- 9hr 59min 59.99sec stopwatch capacity. Resolution: 1/100th sec. Programmable count down from 1 sec to 9hrs 59min 59sec. Pacer 10 to 320 beeps/min with display. Hours, minutes, seconds, date, month and year clock with alarm in 12 or 24 hour format. Stop, start, lap, split and reset functions. 60 lap memory with ability to access the fastest, slowest and calculated average lap times. Supplied complete with lithium battery, neck band and comprehensive instructions.

TII5731 ④



DIGITAL STOPWATCH R219. Clear 10mm LCD display containing the following features: 23hr, 59mins, 59.99secs. stopwatch capacity with split and lap time facilities. 12 and 24 hour watch with alarm. Displaying hours, mins, secs, day date and weekday.

TII5732 ⑤



SCHOOL TIMER. A simple one second stopwatch designed for use by younger children. Features include easy two button operation, counting capacity of up to 20min., timing to whole seconds only with NO clock or beeper, ergonomically designed case with integral desk stand, clip and magnet. Supplied with battery.

TII5735 ⑥

DIGITAL STOPWATCH, Heavy Duty. A heavy duty stopwatch designed specifically for school use, with large captive buttons, lap and split time facilities and no alarm, chime or clock functions. Capacity: 9hrs, 59mins, 59secs. Resolution 1/100th sec. Supplied with battery and lanyard.

TII5738 ⑦



TIMING AND MOTION

GYROSCOPE. Original all metal Gyroscope complete with pull cord and stand.

TII5760 ⑧

PENDULUM BALLS. A solid metal sphere with small hook.

- TII5770** ⑨ Lead 13mm dia.
- TII5771** Lead 19mm dia.
- TII5772** Lead 25mm dia.
- TII5773** Brass 13mm dia.
- TII5774** Brass 19mm dia.
- TII5775** Brass 25mm dia.



TICKER TAPE TIMER. Operates on 12V d.c. Produces dots at 1/50 intervals. It has an electromagnet with spring loaded armature which vibrates above a support table of carbon paper disc.

- TI15777 Ticker Tape Timer.
 TI15778 Ticker Tape 35M x 9.5mm wide
 TI15779 Carbon paper Discs 40 mm dia



TICKER TIMER. Operates at 6V a.c. and produces dots on the tape using a carbon paper disc at an electronically controlled frequency of 50Hz. The unit is housed in a rugged ABS case. Supplied with carbon paper discs and ticker tape.

- TI15780 ① Ticker Timer
 TI15781 ② Spare Carbon Discs
 TI15782 ③ Spare Ticker Tape in 50M rolls



DYNAMICS SYSTEM. The complete resource to cover experiments in acceleration down an inclined plane (dilute gravity), investigations of the effect of different accelerating forces on different masses, investigation of elastic collisions between trolleys, investigations in inelastic collisions, sharing the momentum between 2 trolleys (explosion between 2 trolleys), Kinetic energy, and many more. The system includes: 1 track extruded aluminium 1.25 metres long with bracket for pulley, 1 trolley standard, 1 trolley with spring loaded plunger, 1 pulley for constant force experiments, 10 mass pieces, 1 ticker timer, 1 reel cotton, 5 reels ticker tape, 20 carbon discs and 1 stop watch. All small components housed in wood box.

TI15785



DYNAMICS TROLLEY. Constructed from strong ABS with 3 low function roller bearing wheels. Length 175mm.

- TI15786 ④ Standard trolley
 TI15787 ⑤ Trolley with plunger

DYNAMICS TROLLEY, WOODEN. A pair of identical wooden trolleys 300mm long mounted on 3 low-friction wheels with spring plungers. The trolleys may be stacked on top of each other by the use of pins. (Supplied).

TI30150 ⑥



FALLING BODIES APPARATUS. For demonstrating that a body will fall vertically at the same rate as a similar one projected forward. Comprising of a spring loaded launcher which propels a steel sphere forward whilst releasing an identical sphere which falls freely. Mounted on a wooden block in which the spheres are stored. Supplied with spheres.

TI30155



GUINEA AND FEATHER APPARATUS. To demonstrate that in a vacuum bodies of different density or mass fall at the same speed. Consisting of a 600x50mm dia. tube fitted with rubber stoppers and a 8mm tube for connection to a vacuum pump.

TI15788



'g' BY FREE FALL APPARATUS. For measurement of time of fall of a steel ball to determine the value of 'g'. An electromagnet is used as a release mechanism for a steel ball which also activates the start of counting. A large sensitive platform forms the mechanism which stops the counting and gives good repetitive results. Complete with a 6V solenoid supported by a 8mm dia. rod, target switch and steel ball.

TII5789



LINEAR AIR TRACK. A modern design, aluminium alloy air track 2.25M long with staggered holes at 25mm spacing and adjustable levelling feet. Ideal for stroboscopic photography, use with data logging equipment and all traditional experiments. Supplied complete with: 2 large and 2 small vehicles both with mass attachments, 2 plasticine holders, 3 steel buffers, 2 white plastic rods, 2 magnetic buffers, 4 catapults, pack of elastic cords and 1 reel of nylon thread. All equipment is supplied in a wooden box.

TII5790



LINEAR AIR TRACK BLOWER.

An electronically controlled air blower designed so that a constant volume and pressure can be delivered to the apparatus enabling more accurate results especially from the air track. Supplied complete with hose and adapter. Rating 700W. For 220/240V.

TII5791

INCLINED PLANE and FRICTION BOARD. A carefully planed board 600 x 75mm is hinged to the base at one end and provided with a pulley for the force cord at the other end. A removable block enables the inclination of the board to be varied. A fraction slider 100 x 65mm in the same wood is reversible and has one side cut away for half its area. Complete with metal roller 75 x 25mm but without masses

TII5794



TONGS

TONGS, CRUCIBLE.

	Type	Length
TO15800 ①	Straight S/S	150mm
TO15805	Straight S/S	200mm
TO15810 ②	Straight M/S	150mm
TO15815	Straight M/S	200mm
TO15820 ③	With Bow S/S	150mm
TO15825	With Bow S/S	200mm
TO15830	With Bow M/S	150mm
TO15835	With Bow M/S	200mm

NOTE: S/S = Stainless Steel M/S = Mild Steel.



TONGS, FISHER PATTERN. Stainless steel.

- TO15850** ④ For Beakers 100-1500ml. Length 356mm
- TO15855** ⑤ For Flasks 100-2000ml. Length 230mm



TOOLS

ALLEN KEYS. Set of 8.

- TO15900 ① Imperial 1/16 to 1/4"
TO15905 Metric 1.5 to 6mm

BRUSH, WIRE. Overall length 30cm.

TO15910

CRIMP TOOL KIT. Comprising of 80 assorted insulated terminals, 40 assorted non-insulated terminals and insulated crimping tool incorporating a wire cutter and stripper. Housed in a plastic case.

TO15912

G-CLAMPS. Malleable, iron frames with ball-end steel screw and swivel head.

- TO15920 ② 100mm Opening
TO15925 150mm Opening

G-CLAMPS, PLATED STEEL. Max. opening 50mm

TO15930 ③



HAND DRILL BRACE. Iron frame with hardwood handle. Double pinion drive. Accepts drills up to 8mm diam.

TO15935 ④

TWIST DRILLS. Set of 7 drills from 1/16 to 1/4", in steps of 1/32". In plastic wallet.

TO15940 ⑤

TWIST DRILLS. Set of 7 drills, 1.5, 2, 3, 4, 5, 6, and 6.5mm. In plastic wallet.

TO15941

DRILL BITS

- TO15942 ⑥ 1.5mm
TO15943 2.0mm
TO15944 3.0mm
TO15945 4.0mm
TO15946 4.5mm
TO15947 5.0mm
TO15948 6.0mm
TO15949 7.0mm



FILES, Second Cut

- TO15950 ⑦ Flat, Length 20cm
TO15951 ⑧ Half Round, Length 15cm
TO15952 ⑨ Round, Length 15cm
TO15953 ⑩ Triangular, Length 15cm

FILE HANDLES, Hardwood.

- TO15955 ⑪ 75mm long
TO15956 100mm long

FILE HANDLES, Polypropylene.

- TO15957 90mm long
TO15958 105mm long
TO15959 120mm long



HAMMER, BALL PEIN. With wooden handle.

- TO15968 ⑫ 120g (4oz) Head
TO15969 250g (8oz) Head
TO15970 360g (12oz) Head

HAMMER, CROSS PEIN. With wooden handle.

- TO15972 ⑬ 120g (4oz) Head
TO15973 240g (8oz) Head

HAMMER, STEEL CLAW. With 454g.

- TO15974 ⑭ With Steel Handle and vinyl grip
TO15975 ⑮ With Wood Handle



JUNIOR HACKSAW. Plated steel frame with finger guard. Complete with blade.

- TO15976 ⑯ Junior Hacksaw
TO15977 Spare blades



MINI SAW. Plated steel frame with plastic handle. Complete with blade.
(accepts Junior Hacksaw Blades)
TO15978 ①

HACKSAW. Adjustable tubular frame for 230 to 305mm blades,
TO15980 ② **Hacksaw**
TO15982 **Spare blades 30cms long**



KNIFE, HOBBY. Plastic handle with snap-off retractable blade.
TO15986 ③ **Hobby knife**
TO15987 **Spare blades**

KNIFE, TRIMMING. With blade guard and five spare blades inside handle.
TO15990 ④ **Trimming knife**
TO15991 **Spare blades**

KNIFE, TRIMMING, Retractable. Blade can be used in 3 positions and fully retracted using slide button. Complete with 5 spare blades as TO15990.
TO15992 ⑤

CUTTING MAT. Hard wearing, self-sealing non-slip cutting mat with grid patterned finish. Size: 450 x 300mm.
TO15994



MOLE WRENCH. With self-locking adjustable jaws and quick release lever. Finished in hammered enamel and chrome plated.
TO15995 ⑥

BLOCK PLANE (SURFORM). Size approx. 140 x 40mm.
TO15997 ⑦



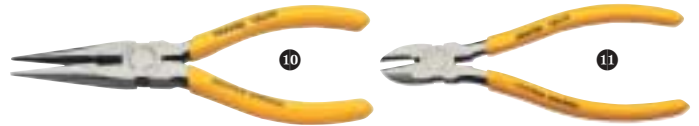
PINCERS, CARPENTER'S. Ball and claw pattern handles. Black finish with polished jaw. Length 150mm.
TO15998 ⑧

PLIERS, ELECTRICIAN'S. (Combination) with insulated handles. Length 160mm.
TO16000 ⑨



PLIERS, SNIPE NOSE. With insulated handles. Length 140mm
TO16005 ⑩

PLIERS, SIDE CUTTING. With insulated handles. Length 160mm
TO16010 ⑪



SANDPAPER. Pack of 10 assorted sheets.
TO16012

SAW. General purpose saw, with a multi-positional blade suitable for cutting wood, plastic and non-ferrous metals. Length 350mm blade.
TO16015 ⑫

HAND SAW. Straight back saw with tough plastic handle. 500mm hardened and tempered steel blade with 8 teeth per 25mm.
TO16017 ⑬



SCREWDRIVERS. With plastic handle and pocket clip. In packs containing 40, 60 & 75 x 3mm blade screwdrivers.

TO16021 **Pack of 3, 1 of each size**
TO16022 ⑭ **Pack of 60, 20 of each size**

SCREWDRIVER, ENGINEER'S TYPE. With plastic handle.

	(L) x (W) of Blade
TO16025 ⑮	100 x 3mm
TO16030	150 x 5mm
TO16035	200 x 5mm

SCREWDRIVER, 'Phillips'. With plastic handle.

	Point Size	Blade Length
TO16040 ⑯	1	80mm
TO16045	2	100mm
TO16050	3	150mm



SCREWDRIVER/WIRESTRIPPER. Plain slot, 3mm blade incorporating a wire stripper in the plastic handle.

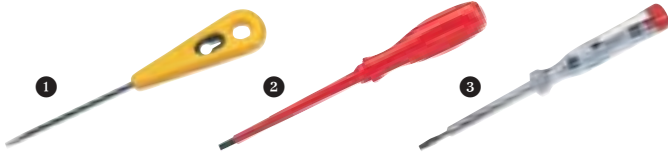
TO16054 ①

SCREWDRIVER, ELECTRICIAN'S. With insulated blade and plastic handle.

(L) x (W) of Blade
TO16055 ② 100 x 4mm
TO16060 150 x 6mm

SCREWDRIVER. MAINS TESTER. For checking circuit continuity with Neon indicator lamp. Voltage range 220 to 240V. Blade length 65mm.

TO16065 ③



SCREWDRIVERS, WATCHMAKERS / JEWELLERS. Plated brass handle. Set of 6 in plastic wallet.

TO16070 ④ Flat Blade
TO16071 ⑤ Cross Point



SNIPS, TINMENS. Length 200mm.

TO16075 ⑥



SOLDERING IRON. 25W Designed for high speed temperature operation, with round pencil bit. 220/240 V.

TO16080 ⑦

SOLDERING IRON STAND. Made from high grade insulation material with chromium plated steel spring.

TO16090 ⑧

SOLDER, Resin cored, wire form. 2.6mm diam.

TO16095 ⑨



SPANNER Adjustable, 15° angled head. Length 150mm, maximum jaw opening 20mm, forged steel.

TO16100 ⑩



SPANNER SET. Set of 11 combination spanners 6 to 19 mm.

TO16102 ⑪



SPIRIT LEVEL. Boat shaped, with plumb and level tubes in plastic body. 250mm long.

TO16105 ⑫

WIRE STRIPPER. Spring loaded with locking catch.

TO16110 ⑬

AUTOMATIC WIRE STRIPPER. Will cut and strip flexible cables up to 6mm without adjustment. Stripped length is adjustable from 3 to 20mm. Cable cutter also incorporated.

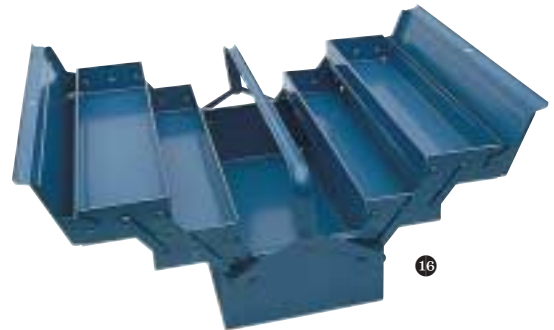
TO16113 ⑭

BENCH VICE. Cast iron with screw clamp for benches and swivel base. Width 55mm. Opening 50mm

TO16114 ⑮

TOOL BOX, CANTILEVER. Made from heavy gauge steel with five trays. Size 425 x 195 x 200mm.

TO16120 ⑯



TOOL TIDY. Plastic. Containing two compartments with carrying handle in the middle. Size (approx.) 398 x 250 x 140mm deep.

TO16123 ⑰

PADLOCK. Laminated steel (supplied with 2 keys)

TO16124 ⑱ Body width 30mm
TO16126 40mm



TRAYS

'GRATNELL' SCHOOL TRAYS. Moulded Polypropylene Trays which can be nested or stacked or fitted into any units taking 312mm trays.

Shallow Trays: Size 427 x 312 x 75mm

- TR16170 ① Brown
- TR16171 ② Blue
- TR16172 ③ Green
- TR16173 ④ Red
- TR16174 ⑤ Yellow

Deep Trays: Size 427 x 312 x 150mm

- TR16180 ⑥ Brown
- TR16181 ⑦ Blue
- TR16182 ⑧ Green
- TR16183 ⑨ Red
- TR16184 ⑩ Yellow

Jumbo Trays: Size 427 x 312 x 300mm

- TR16186 ⑪ Blue
- TR16187 ⑫ Green
- TR16188 ⑬ Red
- TR16189 ⑭ Yellow



LIDS FOR SCHOOL TRAYS.

TR16190 ④



INSERTS for shallow trays

- TR16195 ① 3 section
- TR16196 ② 4 section
- TR16197 ③ 6 section
- TR16198 ④ 8 section



TRAYS, white PVC with ribbed base. Can be used for photographic purposes.

- TR16201 ⑦ 200 x 150 x 50mm
- TR16202 ⑧ 250 x 200 x 60mm
- TR16203 ⑨ 320 x 260 x 70mm
- TR16204 ⑩ 350 x 300 x 80mm
- TR16206 ⑪ 430 x 330 x 90mm

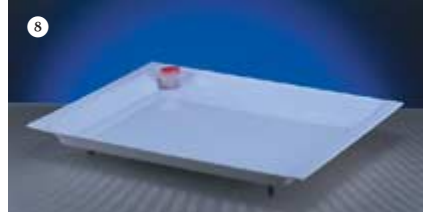
TRAY, MERCURY. White P.V.C. with outlet and plug.

TR16220 ⑧ 400 x 310 x 19mm

ICE CUBE TRAY.

Polythene, to make 16 cubes of ice.

TR16224 ⑨



TRIANGLES

TRIANGLES. Pipeclay tubes on iron wire.

Length of side

- TR16250 ⑩ 39mm
- TR16255 ⑪ 50mm
- TR16260 ⑫ 63mm

TRIANGLES. Silica tubes on nickel chrome wire.

Length of side

- TR16270 ⑬ 39mm
- TR16275 ⑭ 50mm
- TR16280 ⑮ 63mm



TROLLEYS

TROLLEY, SCHOOL TRAY. Steel frame trolley 710 x 420 x 850mm high on castors to hold either 12 shallow or 6 deep Gratnell school trays (or a combination of both). Supplied without trays.

TR16300 ⑪

TRAY TROLLEYS, Enamelled steel construction with 755 x 450mm removable Plastic trays and four swivel castor tyred wheels. Max. load 127Kg.

- | | No. of Trays | Height |
|-----------|--------------|--------|
| TR16310 | 2 | 985mm |
| TR16315 ⑫ | 3 | 1030mm |



TUBES

COMBUSTION TUBES. Borosilicate Glass, with small hole near the bottom end.

TUI6350 ①	125 x 16mm
TUI6355 ②	150 x 25mm

COMBUSTION TUBES. Borosilicate Glass 125 x 16mm with 30 x 6mm tube fused into bottom end.

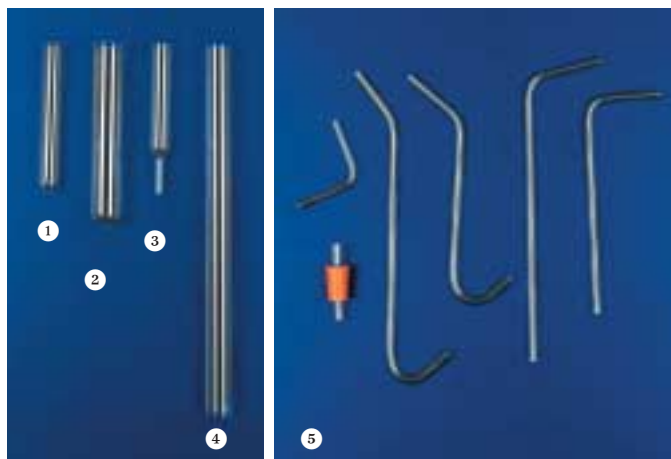
TUI6365 ③

COMBUSTION TUBES. Borosilicate Glass. Open both ends.

TUI6367 ④	280 x 18mm dia.
TUI6368	300 x 22mm dia.
TUI6369	320 x 24mm dia.
TUI6370	320 x 26mm dia.

DELIVERY TUBES. Glass, 6mm O.D. Set of 6.

TUI6375 ⑤



SPECIMEN TUBES. Glass, flat bottom with push-in polythene closures, In Packs of 100.

	Length x Diam.
TUI6400 ⑥	50 x 12mm
TUI6405	50 x 19mm
TUI6410	50 x 25mm
TUI6415	75 x 12mm
TUI6420	75 x 15mm
TUI6425	75 x 19mm
TUI6430	75 x 25mm
TUI6435	100 x 25mm
TUI6440	150 x 25mm

SPECIMEN TUBES. Polythene, with hinged push-in cap.

	Height x Diam
TUI6525 ⑦	32 x 14mm
TUI6530	50 x 15mm
TUI6535	32 x 23mm
TUI6540	72 x 25mm

See also under Vials Page 110



TUBING - GLASS

TUBING, Soda Glass.

	O.D. (mm)	Length of Tube	Nos. Per Pack
TUI6600	4	1.5M	20
TUI6601	4	0.5M	30
TUI6605	5	1.5M	20
TUI6606	5	0.5M	30
TUI6610	6	1.5M	20
TUI6611	6	0.5M	30
TUI6615	7	1.5M	20
TUI6616	7	0.5M	30
TUI6621	8	0.5M	30
TUI6631	10	0.5M	30
TUI6641	13	0.5M	30
TUI6651	16	0.5M	30
TUI6656	19	0.5M	15
TUI6661	22	0.5M	15
TUI6665	26	0.5M	15
TUI6671	32	0.5M	6
TUI6676	38	0.5M	6



TUBING. Borosilicate Glass. Light Wall (1.0mm wall)

	Outside Diam.	Length of Tube	No. Lengths Per Pack
TUI6680	5mm	0.5M	30
TUI6681	6mm	0.5M	30
TUI6682	7mm	0.5M	30
TUI6683	8mm	0.5M	30

TUBING. Borosilicate Glass. Medium Wall (1.5mm wall)

	Outside Diam.	Length of Tube	No. Lengths Per Pack
TUI6690	6mm	1.5M	10
TUI6691	6mm	0.5M	20
TUI6692	7mm	1.5M	10
TUI6693	7mm	0.5M	20
TUI6694	8mm	1.5M	10
TUI6695	8mm	0.5M	20

TUBING. Capillary. Borosilicate Glass in 0.5M lengths.

	Outside Diam.	Bore	No. Lengths Per Pack
TUI6720	5mm	0.4mm	10
TUI6721	6mm	0.8mm	10
TUI6722	7mm	1.2mm	10

TUBING, Capillary Borosilicate glass. In 1.5M length.

	Outside Diam.	Bore	No. Lengths Per Pack
TUI6731	5mm	0.5mm	5
TUI6736	5mm	1.0mm	5
TUI6741	5mm	1.5mm	5

TUBING - FLEXIBLE

TUBING, RED RUBBER. To BS 2775. Normal wall.

	Size	Bore	Wall
TUI6750 ①	N3	3mm	0.75mm
TUI6751			
TUI6755	N5	5mm	1.5mm
TUI6756			
TUI6760	N6.5	6.5mm	1.5mm
TUI6761			
TUI6765	N8*	8mm	2.0mm
TUI6766			
TUI6770	N10	10mm	2.0mm
TUI6771			
TUI6775	N12.5	12.5mm	2.25mm
TUI6780	N16	16mm	3.25mm
TUI6785	N20	20mm	3.25mm

*N.B. N8 Tubing fits most Bunsen Burners

TUBING, GREY NEOPRENE. To BS 2775. Normal Wall.

	Size	Bore	Wall
TUI6800 ②	N3	3mm	0.75mm
TUI6801			
TUI6805	N5	5mm	1.5mm
TUI6806			
TUI6810	N6.5	6.5mm	1.5mm
TUI6811			
TUI6815	N8*	8mm	2.0mm
TUI6816			

TUBING, SILICONE RUBBER. Translucent BS2775. Normal wall.

	Size	Bore	Wall
TUI6820 ③	N3	3mm	0.75mm
TUI6821			
TUI6825	N5	5mm	1.5mm
TUI6826			
TUI6830	N6.5	6.5mm	1.5mm
TUI6831			
TUI6835	N8	8mm	2.0mm
TUI6836			

TUBING, P.V.C. To BS2775. Normal Wall. Transparent and non-toxic. Can be sterilised up to 125°C.

	Bore	Wall	
TUI6840 ④	3mm	0.75mm	TUI6841
TUI6845	5mm	1.5mm	TUI6846
TUI6850	6.5mm	1.5mm	TUI6851
TUI6855	8mm	2.0mm	TUI6856
TUI6860	10mm	2.0mm	TUI6861
TUI6865	12.5mm	2.25mm	TUI6866
TUI6870	16mm	3.25mm	
TUI6875	20mm	3.25mm	
TUI6880	25mm	3.25mm	

TUBING, RED RUBBER. To BS 2775. Heavy Wall.

	Size	Bore	Wall
TUI6900	H3	3mm	3.0mm
TUI6905	H5	5mm	4.0mm
TUI6910	H6.5	6.5mm	5.0mm
TUI6915	H8	8mm	6.0mm
TUI6920	H10	10mm	7.0mm

TUBING CONNECTORS see Adaptors Pg 4



GAS BURNING TUBING

TUBES, GAS BURNER. Flame retardant Neoprene rubber with reinforced ends. Bore 5mm, wall thickness 1.5mm.

TUI6930 ⑤	Length 600mm
TUI6932	Length 750mm
TUI6935	Length 900mm



TUNING FORKS

TUNING FORKS, Blue steel with plain shank.

	Frequency, Hz
TUI6940	C. 256
TUI6941	D. 288
TUI6942	E. 320
TUI6943	F. 341.3
TUI6944	G. 384
TUI6945	A. 426.6
TUI6946	B. 480
TUI6947	C. 512
TUI6948 ⑥	Boxed Set of above 8

TUNING FORKS, Aluminium. Boxed set of 8. Range C.256 to C512

TUI6949 ⑦



VACUUM FLASKS



VACUUM FLASK 'Thermos'. Domestic type. Cylindrical silvered glass in plastic container with screw stopper cap.

VAI6950 ⑧	500ml
VAI6955	1000ml

VIALS

TRIDENT VIALS

SCREW NECK VIALS, Neutral Glass, tall form with black urea screw cap.

	Capacity (ml)	Ht (mm)	Dia. (mm)	Qty Per Box
VII6960 ①	1.75	36	11	882
VII6961	3.5	46	12.5	666
VII6962	7.0	58	17	399
VII6963	10.5	67	17	399
VII6964	14.0	72	20	264
VII6965	21.25	86	21	231
VII6966	28.25	96	23	190



SCREW NECK VIALS, Neutral Glass, squat form with black urea screw cap.

	Capacity (ml)	Ht (mm)	Dia. (mm)	Qty Per Box
VII6970 ②	7.0	42	20	264
VII6971	14.0	58	23.25	190
VII6972	28.25	72	27.5	140

ROLLED RIM VIALS, Neutral Glass with polythene clip-on cap.

	Capacity (ml)	Ht (mm)	Dia. (mm)	Qty Per Box
VII6980 ③	7.0	34	23	190
VII6981	10.5	46	23.25	190
VII6982	14.0	48	25.5	162
VII6983	21.25	66	25.5	162
VII6984	28.25	72	27	140

SCINTILLATION VIALS, Low potassium glass, with screw cap.
Ht. 57mm. Dia. 27mm. In boxes of 500.

VII6986 ④



VISUAL AIDS

HUMAN ANATOMY

HUMAN ANATOMY CHARTS A series of full-colour laminated charts. Each chart contains a number of labelled drawings. Size 660x510mm

VII7002	Skeletal System
VII7004	Vertebral Column
VII7006	Human Spine Disorders
VII7008	Muscular System
VII7014	The Heart
VII7016	Nervous System
VII7018	The Brain
VII7022	Respiratory System
VII7024	Lymphatic System
VII7026	Digestive System
VII7028	The Teeth
VII7034	The Eye
VII7036	The Ear
VII7038	Male Reproductive System
VII7042	Female Reproductive System



HUMAN ANATOMY CHARTS Laminated, wipeclean charts. Size 760x520mm

- VII17062 The Skin
- VII17064 The Muscles
- VII17066 The Skeleton
- VII17068 The Digestive system
- VII17070 The Teeth
- VII17072 The Eye
- VII17074 The Ear
- VII17076 The Lungs
- VII17078 The Heart
- VII17080 The Brain
- VII17085 Set of 10 of the above charts, complete with worksheets and teachers' notes

HUMAN ANATOMY FLIP CHART Set of 10 spiral bound 297x420mm charts on a rigid free-standing A-frame. Covering: skin, muscles, skeleton, digestive system, teeth, eye, ear, lungs, heart and brain
VII17090

FOOD PYRAMID POSTER A 760x520mm laminated poster which shows how to promote healthy living
VII17095

BOTANY CHARTS

PLANT CHARTS Laminated, wipeclean charts. Size 760x520mm

- VII17100 Seed Dispersal
- VII17102 Germination
- VII17104 Seed Formation
- VII17106 Pollination
- VII17108 Stems
- VII17110 Flowers
- VII17112 Leaves
- VII17114 Roots
- VII17116 Corn
- VII17118 Plant Cells
- VII17120 Set of 10 of the above charts, complete with worksheets and teachers' notes

BOTANY FLIP CHART Set of 10 spiral bound 297x420mm charts on a rigid free-standing A-frame. Covering: Seed dispersal, germination, seed formation, pollination, stems, flowers, leaves, roots, corn and fruit
VII17125



CHEMISTRY CHARTS

CHEMISTRY CHARTS

Laminated, wipeclean charts. Size 760x520mm

VII17200	Acid and Bases
VII17202	Air
VII17204	Carbon Dioxide
VII17206	Hydrogen
VII17208	Matter
VII17210	Measurements of Matter
VII17212	Nitrogen
VII17214	Oxygen
VII17216	Water
VII17218	Periodic Table

CHEMISTRY FLIP CHART Set of 10 spiral bound 297x420mm charts on a rigid free-standing 'A' frame. Covering: acids and bases, air, carbon dioxide, hydrogen, matter, measurements of matter, nitrogen, oxygen, water and the Periodic table.

VII17230

PERIODIC TABLE A large laminated poster 980x680mm

VII17245



EARTH SCIENCE

EARTH IN SPACE CHARTS

Laminated, wipeclean charts. Size 760x520mm

VII17260	Clouds
VII17262	Clouds and Weather
VII17264	Solar Systems
VII17266	Sun and Earth
VII17268	The Planets

PHYSICAL SCIENCE

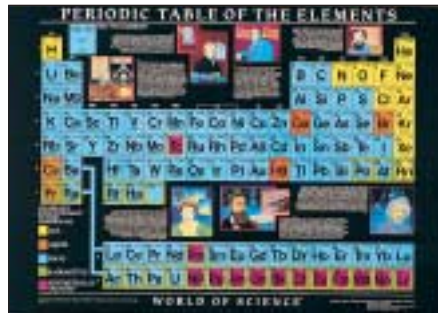
PHYSICAL SCIENCE CHARTS

Laminated, wipeclean charts. Size 760x520mm

VII17310	Electromagnetism
VII17312	Energy
VII17314	Force
VII17320	Magnetism

PHYSICAL SCIENCE FLIP CHART Set of 10 spiral bound 297x420mm charts on a rigid free-standing 'A' frame. Covering: air, Current electricity, energy, force, floating and sinking, heat, light, magnetism, sound and water

VII17340



WASH BOTTLES

WASH BOTTLE Oval, Polythene, The polythene jet can be angled in any direction

WAI7400 ① 250ml
WAI7405 500ml

WAI7401
WAI7406

WASH BOTTLE, Integral type. Polythene, with an integrally moulded tube, removable jet tip and a separate plain cap. The shape is a 'squared oval' for easy grip and improved stability.

WAI7410 ② 250ml
WAI7415 500ml

WAI7411
WAI7416

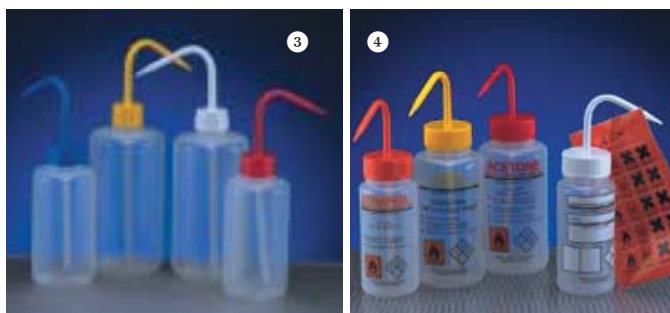


WASH BOTTLES, 'Azlon'. Round natural polyethylene narrow mouth bottles with colour coded swan neck jet and screw closure.

	Capacity	Closure Colour
WAI7420 ③	250ml	Blue
WAI7421	250ml	Green
WAI7422	250ml	Red
WAI7423	250ml	White
WAI7424	250ml	Yellow

WASH BOTTLES, Labelled 'Azlon'. Round natural polyethylene bottles with an easy to fill wide neck and printed with a choice of common volatile solvent labels, complete with the latest hazard information. These bottles feature a unique valve mechanism which automatically vents solvent vapour, eliminating the problem of solvent drip. Also available are a range of non-vented bottles labelled for water.

	Capacity	Label	Closure Colour
WAI7430 ④	250ml	Water	White
WAI7431	250ml	Deionised Water	White
WAI7432	250ml	Distilled Water	White
WAI7433	250ml	Acetone	Red
WAI7434	250ml	Methanol	Green
WAI7435	250ml	Isopropanol	Blue
WAI7436	250ml	I.M.S	Yellow
WAI7437	250ml	Ethanol	Orange



WASHING

GLASS WASHER COMENDA LBC215. The ideal solution to washing laboratory glassware constructed from stainless steel both inside and out. It can be installed either on or below the work bench to suit your requirements. Containing the following features:

Efficient Operation

Automatic systems minimise the need for operator intervention, reduce the waste of costly resources and ensure consistent, efficient warewashing.

Tailored System Design - to ensure maximum operating efficiency at all times.

Simple, Convenient Controls and Fixed Cycle Time

- for constant, high-quality performance irrespective of operator skills.

Automatic Tank Fill and Temperature Control - eliminates risk of premature start resulting in the inevitable waste of detergent, water and power.

- Complete warewashing systems tailored to your individual needs.
- Installation and after-sales service by qualified engineers available.
- Full range of polypropylene racks to meet all requirements supplied.
- Water softeners available (Details on request)
- Optional rinse booster.
- Door safety switches fitted as standard.
- Removable rotating wash and rinse arms for easy cleaning.
- Simple convenient controls.
- Separate rinse and wash tank operation.
- 12 months warranty.
- Efficient Filter System - designed to collect all waste residue.
- Designed to reduce the consumption of energy, chemicals and water.

LBC215 SPECIFICATION

Dimensions: (L x D x H) 460 x 540 x 630mm

Weight: 33Kg

Fixed cycle time: 2 minutes

Total kW rating (cold and hot fill): 2.8kW

Electric specification: 240V - 13amp only

Door open height clearance: 215mm

Drain (diameter): 35mm

Drain (height from floor): 40mm

Water inlet diameter: 3/4 BSP, Rack sizes: 400 x 400mm.

Water Pressure: 2-4 bar (if under 2 bar a rinse pump will be required)

Please contact us if you are unsure about your water supply or drainage.

WAI7440 Glass Washer
WAI7441 Rinse booster pump
WAI7442 Stainless steel stand 120mm high
WAI7443 Installation (please contact our sales department for details)



WASTE

WASTE BIN, SWING TOP. Polythene with rocking flap cover in the removable hood. Dimensions: 33 x 33 x 71cm high. Capacity 50 Litres.

WAI7450 ① Waste Bin
WAI7456 Disposable Liners

WASTE BIN. Polythene, with two carrying handles. Lid is secured by wire clips. Size 535 x 625mm. Capacity 80Lts.

WAI7465 ②

BIN LINERS. Black polythene refuse bags. Size: 460 (W) x 740 (D) x 865 (H)mm.
WAI7468



WATCH GLASSES

WATCH GLASS. Glass with ground edges.

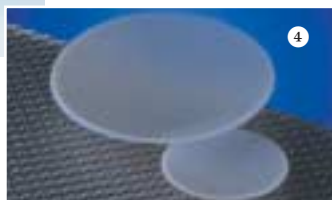
	Diam.
WAI7500 ③	50mm
WAI7505	70mm
WAI7510	80mm
WAI7515	90mm
WAI7520	100mm
WAI7525	130mm
WAI7530	150mm

WATCH GLASS, 'Pyrex' Glass.

	Diam
WAI7550	50mm
WAI7555	80mm
WAI7560	100mm
WAI7565	125mm
WAI7570	150mm

WATCH GLASS, Polypropylene with flat base.

	Diam
WAI7580 ④	60mm
WAI7585	80mm
WAI7590	100mm



WATER STILLS

D4000 DISTINCTION WATER STILL, 'Bibby'. A compact all glass Still, which can be wall or bench mounted. Produces up to 4Lts. per hour of single distilled water. Consisting of a horizontal boiler with a 3Kw heating element, and a double coil condenser which cools the distillate to around 30°C. The boiler can be drained via a Rotaflo Stopcock and cleaned without dismantling. Automatic safety devices are fitted to prevent overheating. Supplied with a level control device which will turn off the heater when reservoir is full. Requires a minimum flow rate of 1Lt. per minute. Overall size 54(W) x 16(D) x 41(H)cm. For 220/240V

WAI7601

Spare Parts:-

WAI7602	Boiler D4000/B
WAI7603	Condenser WC48/M2
WAI7604	Heater D240H



MERIT WATER STILL, 'Bibby'. An economically priced all-glass water still, producing 4Lt/hour single distillate. With condenser, boiler, 3Kw sheathed heater, safety thermostat and screwthread connections. Includes acid addition port and draincock system for descaling the boiler. For bench or wall mounting. Overall size 470 x 150 x 440mm High. For 220/240V

WAI7605

Spare Parts:-

WAI7608	Boiler W4000/B
WAI7603	Condenser WC48/M2
WAI7609	Heating element 3Kw with safety thermostat A6/6



WATER TESTING

WATER TESTING STRIPS, 'Merck'. Suitable for water testing in the field or in the laboratory. A determination is obtained by immersing the test zone of a strip in the sample solution and comparing with the colour scale.

- WAI7650** ① **Ammonium test, For 100 Determinations**
- WAI7660** **Nitrate test, For 100 Determinations**
- WAI7665** **Total hardness test, For 100 Determinations**

WATER TESTER, 'Hanna'.

A portable water testing laboratory all in one unit. Measuring pH (0 to 14 x 0.1 ± 0.2pH) ORP (± 1000 x 1 ± 5mV). Conductivity (0 to 1999 x 1 ± 2% full scale γS) and Temperature (0 to 60 x 0.1 ± 0.2°C). Supplied with batteries and full instructions. Size 190 x 95 x 70mm.

WAI7686 ②



CHEMICAL TEST KITS, 'Hanna'.

Each kit comes ready for use, complete with solutions, measuring syringe, bottles, etc. in plastic case.

- WAI7700** Dissolved Oxygen Test Kit, 0 - 10ppm O₂
- WAI7702** Alkalinity Test Kit, 0 - 100/0 - 300mg/l_t CaCO₃
- WAI7704** Hardness Test Kit, 0 - 30/0 - 300mg/l_t CaCO₃
- WAI7706** Chloride Test Kit, 0 - 100/0 - 1000mg/l_t Cl
- WAI7708** Carbon Dioxide Test Kit, 0 - 10/0 - 50/0 - 100mg/l_t CO₂
- WAI7710** Acidity Test Kit, 0 - 100/0 - 500mg/l_t CaCO₃
- WAI7712** ③ Ammonia Test Kit, range 0 - 2.5mg/l_t Ammonia Nitrogen in fresh water
- WAI7714** ④ Bromine Test Kit, range 0 - 3.0mg/l_t Bromine
- WAI7716** Chlorine, Free Test Kit, range 0 - 2.5mg/l_t Chlorine
- WAI7717** Chlorine, Total Test Kit, range 0-2.5mg/l_t Chlorine
- WAI7718** Iodine Test Kit, range 0 - 2.5mg/l_t Iodine
- WAI7720** Phosphate Test Kit, range 0 - 5mg/l_t PO₄
- WAI7722** Iron Test Kit, range 0 - 5 mg/l_t Iron
- WAI7724** Salinity Test Kit, range 0 - 40ppt (g/kg)
- WAI7726** ⑤ Hydroxide Test Kit, range 0 - 1/0 - 10g/l_t Hydroxide
- WAI7728** Pool Test Kit, alkalinity 0 - 100/0 - 300mg/l_t CaCO₃, Chlorine 0 - 2.5mg/l_t Cl., Bromine 0 - 3.0mg/l_t Br., pH 0 - 14.



ION SPECIFIC METERS 'Hanna'.

A range of portable meters which are dedicated to a specific ion and are fast and easy to use. Specifications: **Light source** LED, **Light detector** Silicon photocell, **Operating conditions** 0 to 50°C and 0 to 95%RH. **Size** 180 x 83 x 46mm. **Power** 9V, PP3 battery (supplied). Each Meter comes complete with 2 glass cuvettes, a cuvette cap and full instructions, but without reagents.

METERS

Type	Range
WAI7750 Aluminium	0.00 to 1.00 x 0.01mg/l _t .
WAI7755 Ammonia	0.00 to 3.00 x 0.01mg/l _t .
WAI7760 Chlorine, Free	0.00 to 2.50 x 0.01mg/l _t .
WAI7765 Chlorine, Total	0.00 to 3.50 x 0.01mg/l _t .
WAI7770 Copper	0.00 to 5.00 x 0.01mg/l _t .
WAI7775 Hardness, Ca.	0.00 to 2.70 x 0.01mg/l _t .
WAI7780 Hardness, Mg.	0.00 to 2.00 x 0.01mg/l _t .
WAI7785 Iron	0.00 to 5.00 x 0.01mg/l _t .
WAI7790 Nitrate	0.0 to 30.0 x 0.1mg/l _t .
WAI7795 Nitrite, high	0 to 150 x 1mg/l _t .
WAI7800 Nitrite, low	0.00 to 0.35 x 0.01mg/l _t .
WAI7805 Oxygen, dissolved	0.0 to 10.0 x 0.1mg/l _t /ea.
WAI7810 Phosphate, high	0.0 to 30.0 x 0.1mg/l _t /ea
WAI7815 Phosphate, low	0.00 to 2.50 x 0.01mg/l _t .
WAI7820 Phosphorous	0.0 to 15.0 x 0.1mg/l _t .

REAGENTS (For 100 Tests)

For Meter	
WAI7751 Aluminium	
WAI7756 Ammonia	
WAI7761 Chlorine, free	
WAI7766 Chlorine, total	
WAI7771 Copper	
WAI7776 Hardness, Ca.	
WAI7781 Hardness, Mg.	
WAI7786 Iron	
WAI7791 Nitrate	
WAI7796 Nitrite, high	
WAI7801 Nitrite, low	
WAI7806 Oxygen, dissolved	
WAI7811 Phosphate, high	
WAI7816 Phosphate, low	
WAI7821 Phosphorous	



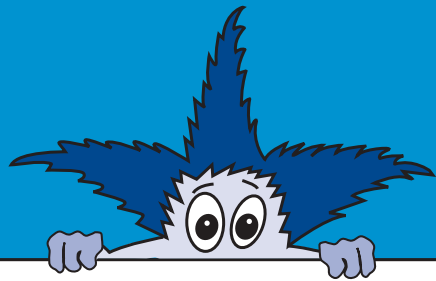
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CHEMICALS

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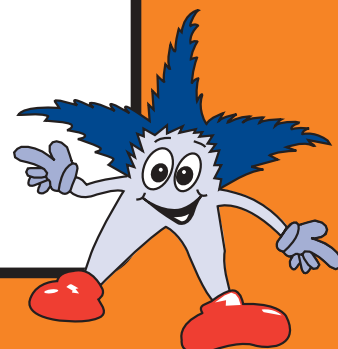
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HAZARD & SAFETY INFORMATION

Hazard Warnings are indicated on our labels by Hazard Symbols and Risk and Safety Phrases in accordance with UK Regulations and the Directives of the European Community. These Hazard Warnings are intended to provide guidance towards the safe handling of products and are continually being updated as further information becomes available.

The absence of Hazard Symbols or Risk and Safety Phrases should not be taken to indicate that the product is non-hazardous.

Safety Data Sheets are supplied with all our products. (Additional copies are available at 30p each to cover administration costs).

HAZARD SYMBOLS

**Highly Flammable**

Liquids with a flash point less than 21°C.
Substances which may become hot and ignite in air at ambient temperatures.
Solids which ignite after brief contact with a source of ignition.
Solids which evolve highly flammable gases with water or moist air.

**Corrosive**

Substances which can destroy living tissue.

**Oxidising**

Substances which produce highly exothermic reactions in contact with other substances, particularly flammable substances.

**Toxic**

Substances which can cause a serious risk of acute or chronic poisoning when inhaled, swallowed or absorbed through the skin.

**Flammable**

Liquids with a flash point greater than or equal to 21°C and less than or equal to 55°C.

**Extremely Flammable**

Liquids with a flash point of less than 0°C and a boiling point of less than or equal to 35°C.

**Harmful**

Substances which have a limited effect on health by inhalation, ingestion or skin absorption.

**Irritant**

Substances which can cause inflammation through immediate, prolonged or repeated contact with the skin or mucous membranes.

**Explosive**

Substances which may explode under the effect of heat, flame or shock.

**Dangerous for the Environment**

This symbol shows that the product can have a detrimental effect upon ecosystems. The primary objective of classifying substances dangerous for the environment is to alert the user to hazards these substances present to ecosystems.

RISK AND SAFETY PHRASES

R: Risk Phrases (Part IV)

- | | | |
|---|---|--|
| 1: Explosive when dry | 23: Toxic by inhalation | 48: Danger of severe damage to health by prolonged exposure |
| 2: Risk of explosion by shock, friction, fire or other sources of ignition | 24: Toxic in contact with skin | 49: May cause cancer by inhalation |
| 3: Extreme risk of explosion by shock, friction fire or other sources of ignition | 25: Toxic if swallowed | 50: Very toxic to aquatic organisms |
| 4: Forms very sensitive explosive metallic compounds | 26: Very toxic by inhalation | 51: Toxic to aquatic organisms |
| 5: Heating may cause an explosion | 27: Very toxic in contact with skin | 52: Harmful to aquatic organisms |
| 6: Explosive with or without contact with air | 28: Very toxic if swallowed | 53: May cause long-term adverse effects in the aquatic environment |
| 7: May cause fire | 29: Contact with water liberates toxic gas | 54: Toxic to flora |
| 8: Contact with combustible material may cause fire | 30: Can become highly flammable in use | 55: Toxic to fauna |
| 9: Explosive when mixed with combustible material | 31: Contact with acids liberates toxic gas | 56: Toxic to soil organisms |
| 10: Flammable | 32: Contact with acids liberates very toxic gas | 57: Toxic to bees |
| 11: Highly flammable | 33: Danger of cumulative effects | 58: May cause long-term adverse effects in the environment |
| 12: Extremely flammable | 34: Causes burns | 59: Dangerous for the ozone layer |
| 14: Reacts violently with water | 35: Causes severe burns | 60: May impair fertility |
| 15: Contact with water liberates extremely flammable gases | 36: Irritating to eyes | 61: May cause harm to the unborn child |
| 16: Explosive when mixed with oxidizing substances | 37: Irritating to respiratory system | 62: Possible risk of impaired fertility |
| 17: Spontaneously flammable in air | 38: Irritating to skin | 63: Possible risk of harm to the unborn child |
| 18: In use, may form flammable/explosive vapour-air mixture | 39: Danger of very serious irreversible effects | 64: May cause harm to breastfed babies |
| 19: May form explosive peroxides | 40: Limited evidence of a carcinogenic effect | 65: Harmful: May cause lung damage if swallowed |
| 20: Harmful by inhalation | 41: Risk of serious damage to eyes | 66: Repeated exposure may cause skin dryness and cracking |
| 21: Harmful in contact with skin | 42: May cause sensitisation by inhalation | 67: Vapours may cause drowsiness and dizziness |
| 22: Harmful if swallowed | 43: May cause sensitisation by skin contact | 68: Possible risk of irreversible effects |
| | 44: Risk of explosion if heated under confinement | |
| | 45: May cause cancer | |
| | 46: May cause heritable genetic damage | |

Combination of particular risk

14/15:	Reacts violently with water, liberating highly flammable gases	39/26:	Very toxic: danger of very serious irreversible effects through inhalation	48/22:	Harmful: danger of serious damage to health by prolonged exposure if swallowed
15/29:	Contact with water liberates toxic, highly flammable gases	39/27:	Very toxic: danger of very serious irreversible effects in contact with skin	48/20/21:	Harmful: danger of serious damage to health by prolonged exposure through inhalation and in contact with skin
20/21:	Harmful by inhalation and in contact with skin	39/28:	Very toxic: danger of very serious irreversible effects if swallowed	48/20/22:	Harmful: danger of serious damage to health by prolonged exposure through inhalation and if swallowed
20/21/22:	Harmful by inhalation, in contact with skin and if swallowed	39/26/27:	Very toxic: danger of very serious irreversible effects through inhalation and in contact with skin	48/21/22:	Harmful: danger of serious damage to health by prolonged exposure in contact with skin and if swallowed
20/22:	Harmful by inhalation and if swallowed	39/26/28:	Very toxic danger of very serious irreversible effects through inhalation and if swallowed	48/20/21/22:	Harmful: danger of serious damage to health by prolonged exposure through inhalation, in contact with skin and if swallowed
21/22:	Harmful in contact with skin and if swallowed	39/27/28:	Very toxic: danger of very serious irreversible effects in contact with skin and if swallowed	48/23:	Toxic: danger of serious damage to health by prolonged exposure through inhalation
23/24:	Toxic by inhalation and in contact with skin	39/26/27/28:	Very toxic: danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed	48/24:	Toxic: danger of serious damage to health by prolonged exposure in contact with skin
23/24/25:	Toxic by inhalation, in contact with skin and if swallowed	68/20:	Harmful: possible risk of irreversible effects through inhalation	48/25:	Toxic: danger of serious damage to health by prolonged exposure if swallowed
23/25:	Toxic by inhalation and if swallowed	68/21:	Harmful: possible risk of irreversible effects in contact with skin	48/23/24:	Toxic: danger of serious damage to health by prolonged exposure through inhalation and in contact with skin
24/25:	Toxic in contact with skin and if swallowed	68/22:	Harmful: possible risk of irreversible effects if swallowed	48/23/25:	Toxic: danger of serious damage to health by prolonged exposure through inhalation and if swallowed
26/27:	Very toxic by inhalation and in contact with skin	68/20/21:	Harmful: possible risk of irreversible effects through inhalation and in contact with skin	48/24/25:	Toxic: danger of serious damage to health by prolonged exposure in contact with skin and if swallowed
26/27/28:	Very toxic by inhalation, in contact with skin and if swallowed	68/20/22:	Harmful: possible risk of irreversible effects through inhalation and if swallowed	48/23/24/25:	Toxic: danger of serious damage to health by prolonged exposure through inhalation, in contact with skin and if swallowed
26/28:	Very toxic by inhalation and if swallowed	68/21/22:	Harmful: possible risk of irreversible effects in contact with skin and if swallowed	50/53:	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment
27/28:	Very toxic in contact with skin and if swallowed	68/20/21/22:	Harmful: possible risk of irreversible effects through inhalation, in contact with skin and if swallowed	51/53:	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment
36/37:	Irritating to eyes and respiratory system	42/43:	May cause sensitisation by inhalation and skin contact	52/53:	Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment
36/37/38:	Irritating to eyes, respiratory system and skin	48/20:	Harmful: danger of serious damage to health by prolonged exposure through inhalation		
36/38:	Irritating to eyes and skin	48/21:	Harmful: danger of serious damage to health by prolonged exposure		
37/38:	Irritating to respiratory system and skin				
39/23:	Toxic: danger of very serious irreversible effects through inhalation				
39/24:	Toxic: danger of very serious irreversible effects in contact with skin				
39/25:	Toxic: danger of very serious irreversible effects if swallowed				
39/23/24:	Toxic: danger of very serious irreversible effects through inhalation and in contact with the skin				
39/23/25:	Toxic: danger of very serious irreversible effects through inhalation and if swallowed				
39/24/25:	Toxic: danger of very serious irreversible effects in contact with skin and if swallowed				
39/23/24/25:	Toxic: danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed				

S: Safety Phrases (Part V)

1:	Keep locked up	27:	Take off immediately all contaminated clothing	47:	Keep at temperature not exceeding . . . °C (to be specified by the manufacturer)
2:	Keep out of reach of children	28:	After contact with skin, wash immediately with plenty of . . . (to be specified by the manufacturer)	48:	Keep wet with . . . (appropriate material to be specified by the manufacturer)
3:	Keep in a cool place	29:	Do not empty into drains	49:	Keep only in the original container
4:	Keep away from living quarters	30:	Never add water to this product	50:	Do not mix with . . . (to be specified by the manufacturer)
5:	Keep contents under . . . (appropriate liquid to be specified by manufacturer)	33:	Take precautionary measures against static discharges	51:	Use only in well ventilated areas
6:	Keep under . . . (inert gas to be specified by the manufacturer)	35:	This material and its container must be disposed of in a safe way	52:	Not recommended for interior use on large surface areas
7:	Keep container tightly closed	36:	Wear suitable protective clothing	53:	Avoid exposure — obtain special instructions before use
8:	Keep container dry	37:	Wear suitable gloves	56:	Dispose of this material and its container at hazardous or special waste collection point
9:	Keep container in a well ventilated place	38:	In case of insufficient ventilation, wear suitable respiratory equipment	57:	Use appropriate container to avoid environmental contamination
12:	Do not keep the container sealed	39:	Wear eye/face protection	59:	Refer to manufacturer/supplier for information on recovery/recycling
13:	Keep away from food, drink and animal feeding stuffs	40:	To clean the floor and all objects contaminated by this material use . . . (to be specified by the manufacturer)	60:	This material and its container must be disposed of as hazardous waste
14:	Keep away from . . . (incompatible materials to be indicated by the manufacturer)	41:	In case of fire and/or explosion do not breathe fumes	61:	Avoid release to the environment. Refer to special instructions/Safety data sheets
15:	Keep away from heat	42:	During fumigation/spraying wear suitable respiratory equipment (appropriate wording to be specified by the manufacturer)	62:	If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label
16:	Keep away from sources of ignition — No Smoking	43:	In case of fire, use . . . (indicate in the space the precise type of fire-fighting equipment, if water increases the risk, add — "Never use water")	63:	In case of accident by inhalation, remove casualty to fresh air and keep at rest
17:	Keep away from combustible material	45:	In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible)	64:	If swallowed, rinse mouth with water (only if person is conscious)
18:	Handle and open container with care	46:	If swallowed seek medical advice immediately and show this container or label		
20:	When using do not eat or drink				
21:	When using do not smoke				
22:	Do not breathe dust				
23:	Do not breathe gas/fumes/vapour/spray (appropriate wording to be specified by the manufacturer)				
24:	Avoid contact with skin				
25:	Avoid contact with eyes				
26:	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice				

Combination of Safety Precautions required



1/2:	Keep locked up and out of the reach of children	7/8:	Keep container tightly closed and dry	29/56:	Do not empty into drains, dispose of this material and its container at hazardous or special waste collection point
3/7:	Keep container tightly closed, in a cool place	7/9:	Keep container tightly closed and in a well ventilated place:	36/37:	Wear suitable protective clothing and gloves
3/9/14:	Keep in a cool, well ventilated place away from . . . (incompatible materials to be specified by the manufacturer)	7/47:	Keep container tightly closed and at a temperature not exceeding . . . °C (to be specified by the manufacturer)	36/37/39:	Wear suitable protective clothing, gloves and eye/face protection
3/9/14/49:	Keep only in the original container in a cool, well ventilated place away from . . . (incompatible materials to be specified by the manufacturer)	20/21:	When using do not eat, drink or smoke	36/39:	Wear suitable protective clothing and eye/face protection
3/9/49:	Keep only in the original container in a cool, well ventilated place	24/25:	Avoid contact with skin and eyes	37/39:	Wear suitable gloves and eye/face protection
3/14:	Keep in a cool place away from . . . (incompatible materials to be specified by the manufacturer)	27/28:	After contact with skin, take off immediately all contaminated clothing and wash immediately with plenty of water.	47/49:	Keep only in the original container at temperatures not exceeding . . . °C (to be specified by the manufacturer)
		29/35:	Do not empty into drains, this material and its container must be disposed of in a safe way		







ABBREVIATIONS








UN	UN Hazard Classification / Number	LR	Laboratory Reagent Grade	AR	Analytical Reagent Grade
CAS	Chemical Abstract Service Numbers	Lt	Litre	Kg	Kilogram
T	Technical Grade	EINECS	European Inventory of Existing Commercial Chemical Substances Number	w/w	Weight/Weight
ml	Millilitre			g	Gram
				w/v	Weight/Volume









Hazard	Chemical	Cat. No.	Qty.	Price
	Acetaldehyde, LR (ethanal) CH ₃ CHO = 44.05 Min. assay (GLC) 99% Wt. per ml at 20°C 0.778-0.781g -27°C	AC1000	500ml	•
	R: 12-36/37-40 S: 16-33-36/37 CAS:75-07-0 UN: 3.1/1089 EINECS: 2008368			
	Acetamide, LR (ethanamide) CH ₃ CO.NH ₂ = 59.07 Min. assay (ex N) 98%	AC1006	100g	•
	R: 40 S: 36/37 CAS: 60-35-5 EINECS: 2004735			
	Acetanilide, LR (n-phenylethanamide) C ₆ H ₅ NH.CO.CH ₃ = 135.17 Min. assay (ex aniline) 98.5% (by saponification) 98.5%	AC1012	100g	•
	R: 21/22 S: 26 CAS:103-84-4 EINECS: 2031507			
	Acetic acid, LR (ethanoic acid) CH ₃ COOH = 60.05 Min assay (acidimetric) 99.5% Wt. per ml at 20°C 1.048-1.051g 40°C	AC1018 AC1020	500ml 2.5Lt	•
	Acetic acid, AR CH ₃ COOH = 60.05 Min Assay 99.8% Wt. per ml at 20°C About 1.049g R: 10-35 S: 23-26-45 CAS: 64-19-7 UN: 8/2789 EINECS: 2005807	AC1029	2.5Lt	•
	Acetic acid, 1.0M Std. Soln.	AC1030	2.5Lt	•
	Acetic anhydride, LR (ethanoic anhydride) (CH ₃ CO) ₂ O = 102.09 Min assay (acidimetric) 98% Wt. per ml at 20°C 1.079-1.082g 54°C	AC1036 AC1038	100ml 500ml	•
	R: 10-20/22-34 S: 26-36/37/39-45 CAS: 108-24-7 UN: 8/1715 EINECS: 2035648			
	Acetone, LR (propanone) (CH ₃) ₂ CO = 58.08 Min. assay (GLC) 99.9% Wt. per ml at 20°C 0.789-0.792g -20°C	AC1046 AC1048 AC10524	1Lt 2.5Lt 4 x 5Lt	•
	Acetone, AR (CH ₃) ₂ CO = 58.08 Min assay 99.5% Wt. per ml at 20°C 0.791g	AC1055	2.5Lt	•
	R: 11-36-66-67 S: 9-16-23 CAS: 67-64-1 UN: 3.1/1090 EINECS: 2006622			
	Acetophenone, LR (phenylethanone) C ₆ H ₅ CO.CH ₃ = 120.15 Min assay (GLC) 99% Wt. per ml at 20°C 1.025-1.027g 82°C	AC1056	250ml	•
	R: 22-36 S: 26 CAS: 98-86-2 UN: 6.1/2810 EINECS: 2027087			










Hazard	Chemical	Cat. No.	Qty.	Price
	Acetyl chloride, (ethanoyl chloride) CH ₃ COCl = 78.50 Assay (exCl) 98-102% Wt per ml at 20°C About 1.10g 5°C	AC1058 AC1060	100ml 500ml	•
	R: 11-14-34 S: 9-16-26-45 CAS: 75-36-5 UN: 3.2/1717 EINECS: 2008656			
	Acid, Blue 40 Cl.62125	AC1062	5g	•
	CAS: 6424-85-7 EINECS: 2291905			
	Adenine, LR (6-aminopurine) C ₅ H ₄ N ₆ = 135.13 Min assay (spectrophotometric) 262 nm at pH 1.0 97.5%	ADI064	1g	•
	R: 22 S: 22-24/25 CAS: 73-24-5 EINECS: 2007961			
	Adenosine-5-triphosphoric acid disodium dihydrogen salt, (ATP) crystalline C ₁₀ H ₁₄ N ₅ O ₁₃ P ₃ Na ₂ 3H ₂ O = 605.19	ADI070 ADI072	1g 5g	•
	CAS: 987-65-5 EINECS: 2135791			
	Adipic acid, LR (hexanedioic acid) (CH ₂ CH ₂ COOH) ₂ = 146.14 Min assay (acidimetric) 99%	ADI076	250g	•
	R: 36 CAS: 124-04-9 EINECS: 2046733			
	Adipoyl chloride, LR (hexanedioyl chloride) (CH ₂ CH ₂ COCl) ₂ = 183.03 Min assay (acidimetric) 98% (argentometric) 98% Wt. per ml at 20°C about 1.30g	ADI080	25ml	•
	R: 34 S: 26-36/37/39-45 CAS: 1111-50-2 UN: 8/3265 EINECS: 2038764			
	Adipoyl chloride 5% solution in Cyclohexane -17°C	ADI084	100ml	•
	R: 11-36/38 S: 9-16-26-33 UN: 3.1/2924			
	Agar, fine powder	AG1092 AG1094	100g 250g	•
	CAS: 9002-18-0 EINECS: 2326581			
	Agar, culture media, see Page 218			
	DL-Alanine, (2-aminopropanoic acid) CH ₃ CH(NH ₂).COOH = 89.09 Assay (ex N) 98.5-100.5%	AL1098	25g	•
	CAS: 302-72-7 EINECS: 2061264			






Hazard	Chemical	Cat. No.	Qty.	Price
	L-Alanine (L-2-Aminopropanoic Acid) CH ₃ CH(NH ₂).COOH=89.09 Min assay 98.5%	ALI1100	5g	•
	CAS: 56-41-7 EINECS: 2002738			
	Albumen, egg powder	ALI1102	100g	•
	CAS: 9006-50-2			
	Albustix, see page 219			
	Alizarin CI 58000	ALI11084	5g	•
	CAS: 72-48-0 EINECS: 2007825			
	Alizarin red, 'S' stain CI 58005	ALI1110	5g	•
	CAS: 130-22-3 EINECS: 2049818			
	Aluminium metal, foil 450mm x 90M (cooking) Al = 26.98	AL00255	roll	•
	Aluminium metal, foil 0.1mm Al = 26.98	ALI1114	250g	•
	Aluminium metal leaf In books of 25 leaves 150 x 150mm CAS: 7429-90-5 EINECS: 2310723	ALI1115	per bk	•
	Aluminium powder, fine Al = 26.98	ALI1116	250g	•
	Aluminium powder, coarse Al = 26.98	ALI1120	250g	•
	R: 10-15 S: 7/8-43 CAS: 7429-90-5 UN: 4.3/1396 EINECS: 2310723			
	Aluminium ammonium sulphate LR (ammonium alum) AlNH ₄ (SO ₄) ₂ .12H ₂ O = 453.32 Min assay (ex Al) 99%	ALI1134	500g	•
	CAS: 7784-25-0 EINECS: 2320553			
	Aluminium chloride anhydrous LR AlCl ₃ = 133.34 Min assay (ex C) 98%	ALI1142	500g	•
	R: 34 S: 7/8-28-45 CAS: 7446-70-0 UN: 8/1726 EINECS: 2312081			
	Aluminium chloride 6-water LR AlCl ₃ .6H ₂ O = 241.43 Min assay (ex C) 97%	ALI1146	100g	•
	R: 36/38 CAS: 7784-13-6 EINECS: 2312081			
	Aluminium hydroxide Al(OH) ₃ =78.00 Min assay 95%	ALI1151	500g	•
	CAS: 21645-51-2 EINECS: 2444927			

Hazard	Chemical	Cat. No.	Qty.	Price
	Aluminium nitrate LR Al(NO ₃) ₃ .9H ₂ O = 375.13 Min assay 98%	ALI1152	250g	•
	R: 8-36/38 CAS: 7784-27-2 UN: 5.1/1438 EINECS: 2367518			
	Aluminium oxide calcined LR Al ₂ O ₃ = 101.96	ALI1158	500g	•
	S: 22 CAS: 1344-28-1 EINECS: 2156916			
	Aluminium potassium sulphate 12 - water LR AlK(SO ₄) ₂ .12H ₂ O = 474.38 Min assay (ex Al) 99%	ALI1162	500g	•
	CAS: 7784-24-9 EINECS: 2331413			
	Aluminium sulphate LR Al ₂ (SO ₄) ₃ .16H ₂ O = 630.38 Min assay 97%	ALI1172	500g	•
	R: 41 S: 26-39 CAS: 16828-11-8 EINECS: 2331350			
	Aminoacetic acid (glycine) LR NH ₂ .CH ₂ .COOH = 75.07 Min assay (ex N) 99%	AMI1180	100g	•
	CAS: 56-40-6 EINECS: 2002722			
	Amino acid set Consisting of 17 tubes of 1g each of the following: L-Alanine, L-Arginine, L-Asparagine, L-Cystine, L-Glutamic acid, Glycine, L-Histidine monohydrochloride, L-Leucine, L-Lysine monohydrochloride, DL-Methionine, DL-Phenylalanine, L-Proline, L-Serine, L-Threonine, L-Tryptophane, L-Tyrosine, L-Valine.	AMI1186	Set	•
	Ammonia solution LR sp. gr. 0.88 about 35% NH ₃ = 17.03	AMI1188 AMI1190	1Lt 2.5Lt	• •
	R: 34-50 S: 26-36/37/39-45-61 CAS: 1336-21-6 UN: 8/2672 EINECS: 2156476			
	Ammonium acetate LR CH ₃ .COONH ₄ = 77.08 Min assay (ex NH ₃) 96%	AMI208	500g	•
	CAS: 631-61-8 EINECS: 2111629			
	Ammonium bromide LR NH ₄ Br = 97.94 Min assay (ex Br) 99%	AMI216	250g	•
	CAS: 12124-97-9 EINECS: 2351838			
	Ammonium carbonate LR NH ₄ HCO ₃ + NH ₂ .COO.NH ₄ Ammonia (NH ₃) 30-33%	AMI222	500g	•
	R: 22 CAS: 10361-29-2 EINECS: 2080580			
	Ammonium chloride LR NH ₄ Cl = 53.49 Min assay (ex Cl) 99%	AMI230 AMI232	500g 3Kg	• •
	R: 22-36 S: 22 CAS: 12125-02-9 EINECS: 2351864			

Hazard	Chemical	Cat. No.	Qty.	Price
	di-Ammonium copper (II) sulphate LR (ammonium cupric sulphate) (NH ₄) ₂ SO ₄ ·CuSO ₄ ·6H ₂ O = 399.83 Assay (ex Cu) 98-102%	AM1242	100g	•
	CAS: 13587-26-3 EINECS: 2370211			
	Ammonium dichromate LR (NH ₄) ₂ Cr ₂ O ₇ = 252.06 Min assay (iodometric, after drying) 99.5%	AM1248 AM1250	250g 500g	• •
				
	R: 49-46-01-08-21-25-26-37/38-41-43-50/53 S: 53-45-60-61 CAS: 7789-09-5 UN: 5.1/1439 EINECS: 2321431			
	Ammonium ethanedioate LR (ammonium oxalate) (COONH ₄) ₂ ·H ₂ O = 142.11 Min assay (ex oxalate) 99%	AM1258	100g	•
	R: 21/22 S: 24/25-36/37 CAS: 1113-38-8 UN: 6.1/2811 EINECS: 2142023			
	Ammonium hydrogen carbonate LR NH ₄ HCO ₃ = 79.06 Min assay (acidimetric) 98.5%	AM1264	500g	•
	R: 22 CAS: 1066-33-7 EINECS: 2139115			
	di-Ammonium hydrogen phosphate (V) LR (NH ₄) ₂ HPO ₄ = 132.06 Assay (acidimetric) 97-102%	AM1266	500g	•
	CAS: 7783-28-0 EINECS: 2319878			
	di-Ammonium iron (II) sulphate LR (ammonium ferrous sulphate) (NH ₄) ₂ SO ₄ ·FeSO ₄ ·6H ₂ O = 392.13 Min assay (acidimetric) 98.5%	AM1268	500g	•
	di-Ammonium iron (II) sulphate AR (NH ₄) ₂ SO ₄ ·FeSO ₄ ·6H ₂ O = 392.13 Min assay 99.0% pH (5% solution) 3.0-5.0	AM1271	500g	•
	CAS: 7783-85-9 EINECS: 2331518			
	Ammonium iron (III) sulphate LR NH ₄ Fe(SO ₄) ₂ ·12H ₂ O = 482.18 Assay (ex Fe) 98-101%	AM1276	500g	•
	CAS: 10138-04-2 EINECS: 2333824			
	Ammonium metavanadate LR NH ₄ VO ₃ = 116.98 Min assay (oxidimetric) 98%	AM1284	100g	•
	R: 20-25-36/37 S: 26-37-45 CAS: 7803-55-6 UN: 6.1/2859 EINECS: 2322613			
	Ammonium molybdate LR (NH ₄) ₆ Mo ₇ O ₂₄ ·4H ₂ O = 123.59 Assay 98-102%	AM1288	100g	•
	R: 22 S: 22-24/25			


















Hazard	Chemical	Cat. No.	Qty.	Price
	di-Ammonium nickel (II) sulphate LR (ammonium nickel sulphate) (NH ₄) ₂ SO ₄ ·NiSO ₄ ·6H ₂ O = 394.97 Min assay 98.5%	AM1292	100g	•
	R: 22-40-42/43 S: 22-36/37 CAS: 15699-18-0 EINECS: 2397935			
	Ammonium nitrate LR NH ₄ NO ₃ = 80.04 Min assay (ex NH ₃) 98%	AM1298	500g	•
	R: 8-9 S: 15-16-41 CAS: 6484-52-2 UN: 5.1/1942 EINECS: 2293478			
	Ammonium oxalate - see Ammonium ethanedioate.			
	Ammonium peroxodisulphate LR (ammonium persulphate) (NH ₄) ₂ S ₂ O ₈ = 228.19 Min assay (iodometric) 98%	AM1306	500g	•
	R: 8-22-36/37/38-42/43 S: 22-24-26-37 CAS: 7727-54-0 UN: 5.1/1444 EINECS: 2317865			
	Ammonium sulphate LR (NH ₄) ₂ SO ₄ = 132.13 Min assay 98.5%	AM1310	500g	•
	Ammonium sulphate AR (NH ₄) ₂ SO ₄ = 132.13 Min assay (after drying) 99.5% pH (5% solution) 5.0-6.0	AM1313	500g	•
	CAS: 7783-20-2 EINECS: 2319841			
	Ammonium thiocyanate LR NH ₄ SCN = 76.12 Min assay (argentometric) 97%	AM1318	100g	•
	R: 20/21/22-32 S: 13-36/37 CAS: 1762-95-4 EINECS: 2171756			
	n-Amyl acetate LR (pentyl acetate) CH ₃ COO(CH ₂) ₄ CH ₃ = 130.19 Wt. per ml at 20°C 0.874-0.877g Min assay (GLC) 98%	AM1324	100ml	•
	R: 10-66 S: 23-25 CAS: 628-63-7 UN: 3.2/1104 EINECS: 2110473			
	Iso-Amyl acetate LR (3-methyl butylacetate) CH ₃ COO(CH ₂) ₂ CH(CH ₃) ₂ = 130.19 Min assay (by saponification) 95% Wt per ml at 20°C 0.866-0.874g	AM1330	500ml	•
	R: 10-66 S: 23-25 CAS: 123-92-2 UN: 3.3/1104 EINECS: 2046623			
	Iso-Amyl alcohol LR (3-methyl butan-1-ol) C ₅ H ₁₁ OH = 88.15 Wt. per ml at 20°C 0.810-0.812g Boiling range (95%) Within 2° in the range 128-132°C	AM1334	500ml	•
	R: 10-20 S: 24/25 CAS: 123-51-3 UN: 3.3/1105 EINECS: 2046335			
	n-Amyl alcohol - see Pentan-1-ol			







Hazard	Chemical	Cat. No.	Qty.	Price
	α - Amylase (bacterial source) (3.2.1.1) Contains sodium chloride as an extender	AM1338	10g	•
	α - Amylase (bacterial source) (3.2.1.1) Contains about 50% reducing sugars determined as maltose.	AM1340	10g	•
		AM1342	25g	•
	α - Amylase (bacterial source) Commercial	AM1344	100g	•
	R: 42 S: 22-24-36/37 CAS: 9000-85-5 EINECS: 2325656			
	Aniline LR (phenylamine) $C_6H_5NH_2 = 93.13$ Min assay 98.5% Wt per ml at 20°C 1.02- 1.025g Boiling range (90%) 182-185°C	AN1346	500ml	•
	R: 20/21/22-40-48/23/24/25-50 S: 28-36/37-45-61 CAS: 62-53-3 UN: 6.1/1547 EINECS: 2005393			
	Aniline blue (water soluble) stain	AN1352	5g	•
	CAS: 28631-66-5 EINECS: 2491139			
	Aniline hydrochloride LR (phenylammonium chloride) $C_6H_5NH_2 \cdot HCl = 129.59$ Min assay (ex Cl) 97%	AN1364	100g	•
	R: 20/21/22-40-48/23/24/25-50 S: 28-36/37-61-45 CAS: 142-04-1 UN: 6.1/1548 EINECS: 2055198			
	Aniline sulphate LR (phenylammonium sulphate) $(C_6H_5NH_2)_2 \cdot H_2SO_4 = 284.33$ Min assay (acidimetric) 99%	AN1376	25g	•
	R: 20/21/22-40-48/23/24/25-50 S: 28-36/37-61-45 CAS: 542-16-5 UN: 6.1/2811 EINECS: 2088050			
	Anthranilic acid LR $NH_2 \cdot C_6H_4 \cdot COOH = 137.14$ Assay (acidimetric) 99-100.5%	AN1390	100g	•
	R: 36/37/38 CAS: 118-92-3 EINECS: 2042875			
	Anti-bumping granules	AN1394	250g	•
	CAS: 1344-28-1 EINECS: 2156916			
	Antimony powder LR Sb = 121.75 Min assay (ex Sb) 98.5%	AN1398	25g	•
	R: 20/22 S: 22 CAS: 7440-36-0 UN: 6.1/2871 EINECS: 2311465			
	'Aquadag' (graphite colloidal about 18% solids)	AQ1408	100g	•
	CAS: 7782-42-5 EINECS: 2319553			









Hazard	Chemical	Cat. No.	Qty.	Price
	L(+)-Arabinose $C_5H_{10}O_5 = 150.13$ CAS: 5328-37-0 EINECS: 2262146	ARI418	10g	•
	L-Arginine $NH_2 \cdot C(NH) \cdot NH \cdot (CH_2)_3 \cdot CH(NH_2) \cdot COOH = 174.20$ Minimum assay (ex total N) 98.0%	ARI420	5g	•
	R: 36 S: 26 CAS: 74-79-3 EINECS: 2008111			
	L-Ascorbic acid (vitamin C) $O \cdot CO \cdot C(OH) \cdot C(OH) \cdot CH \cdot CH(OH) \cdot CH_2OH = 176.13$	ASI426	100g	•
	CAS: 50-81-7 EINECS: 2000662			
	L-Asparagine $NH_2 \cdot CO \cdot CH_2 \cdot CH(NH_2) \cdot COOH \cdot H_2O = 150.13$ Min assay 98.5%	ASI434	10g	•
	CAS: 5794-13-8 EINECS: 2007359			
	DL-Aspartic acid $NH_2 \cdot CH(COOH) \cdot CH_2 \cdot COOH = 133.10$ Min assay (ex total N) 99%	ASI438	25g	•
	CAS: 617-45-8 EINECS: 2105133			
	L-Aspartic acid $NH_2 \cdot CH(COOH) \cdot CH_2 \cdot COOH = 133.10$ Min assay (ex total N) 99%	ASI440	25g	•
	CAS: 56-84-8 EINECS: 2002916			
	Barfoed's reagent	BAI450	500ml	•
	Barium (metal) in liquid paraffin Ba = 137.34 Assay 99%	BAI452	10g	•
	R: 11.14/15.22 S: 5.7/8.43 CAS: 7440-39-3 UN: 4.3/1400 EINECS: 2311491			
	Barium carbonate LR $BaCO_3 = 197.34$ Assay (acidimetric) 99-101%	BAI458	500g	•
	R: 22 S: 24/25 CAS: 513-77-9 UN: 6.1/1564 EINECS: 2081673			
	Barium chloride LR $BaCl_2 \cdot 2H_2O = 244.28$ Assay (ex Cl) 99-102%	BAI462	500g	•
	R: 20-25 S: 45 CAS: 10361-37-2 UN: 6.1/1564 EINECS: 2337881			
	Barium diphenylamine-4-sulfonate oxidation-reduction indicator	BAI466	5g	•
	R: 20/22 S: 28 CAS: 1300-92-1 UN: 6.1/1564 EINECS: 2312998			
	Barium hydroxide LR $Ba(OH)_2 \cdot 8H_2O = 315.47$ Min assay (acidimetric) 97%	BAI470	500g	•
	R: 20/22 S: 28 CAS: 17194-00-2 UN: 6.1/1564 EINECS: 2412345			









Hazard	Chemical	Cat. No.	Qty.	Price
	Barium nitrate LR Ba(NO ₃) ₂ = 261.34 Min assay (ex Ba) 98%	BAI474	250g	•
	R: 20/22 S: 28 CAS: 10022-31-8 UN: 5.1/1446 EINECS: 2330205			
	Barium oxide BaO = 153.34 Min assay 97%	BAI476	50g	•
	R: 20/22 S: 28 CAS: 1304-25-5 EINECS: 2151279			
	Barium peroxide LR BaO ₂ = 169.33	BAI478	100g	•
	R: 8-20/22 S: 13-27 CAS: 1304-29-6 UN: 5.1/1449 EINECS: 2151284			
	Barium sulphate precipitated LR BaSO ₄ = 233.39	BAI486	500g	•
	Barium sulphate for soil testing	BAI490	500g	•
	CAS: 7727-43-7 EINECS: 2317844			
	Beeswax white	BEI492	500g	•
	Beeswax yellow	BEI494	500g	•
	CAS: 8012-89-3 EINECS: 2323837			
	Benedict's reagent (qualitative) for detection of reducing sugars.	BEI498	500ml	•
		BEI500	2.5lt	•
	Benedict's solution (quantitative) for determination of reducing sugars. 25ml = 0.05g glucose	BEI504	500ml	•
	Benzaldehyde LR C ₆ H ₅ CHO = 106.12 Assay (exCHO) 98.5-100.5% Wt per ml at 20°C 1.044-1.047g Boiling range (95%) 176-183°C	BEI508	100ml	•
	R: 22 S: 24 CAS: 100-52-7 UN: 9/1990 EINECS: 2028604	BEI510	500ml	•
	Benzamide LR C ₆ H ₅ CO.NH ₂ = 121-114 Min assay (exN) 98.5%	BEI512	100g	•
	CAS: 55-21-0 EINECS: 2002277			
	Benzene - 1,2 - Diol see Catechol			
	Benzene - 1,3 - Diol see Resorcinol			
	Benzene - 1,4, - Diol see Quinol			
	Benzene - 1,2,3 - Triol see Pyrogallol			
	Benzene - 1,3,5 - Triol see Phloroglucinol			
	Benzoic acid LR (benzenecarboxylic acid) C ₆ H ₅ COOH = 122-12 Min assay (acidimetric) 99.5%	BEI518	250g	•
	R: 22-36 S: 24 CAS: 65-85-0 EINECS: 2006182			












Hazard	Chemical	Cat. No.	Qty.	Price
	Benzoyl chloride LR (benzenecarbonyl chloride) C ₆ H ₅ COCl = 140.57 Min assay (ex Cl) 98% Wt per ml at 20°C about 1.21g	BEI524	100ml	•
	R: 34 S: 26-45 CAS: 98-88-4 UN: 8/1736 EINECS: 2027108			
	Benzyl alcohol LR (phenylmethanol) C ₆ H ₅ CH ₂ OH = 108.14 Min assay (GLC) 99% Wt. per ml at 20°C 1.043-1.048 Boiling range (95%) 202-206°C	BEI536	500ml	•
	R: 20/22 S: 26 CAS: 100-51-6 EINECS: 2028599			
	Benzyl chloride LR [(chloromethyl) benzene] C ₆ H ₅ CH ₂ Cl = 126.59 Min assay (GLC) 98.5% Wt per ml at 20°C 1.097-1.101g	BEI540	100ml	•
	R: 45-22-23-37/38-41-48 S: 53-45 CAS: 100-44-7 UN: 6.1/1738 EINECS: 2028536			
	Bicarbonate indicator	BI1548	500ml	•
	Stock solution			
	Bismuth metal granules. LR	BEI554	25g	•
	Bi = 209.0 Min assay 99%			
	CAS: 7440-69-9 EINECS: 2311774			
	Bismuth III chloride LR BiCl ₃ = 315.34 Min assay = 98% R: 36/38 CAS: 7787-60-2	BI1558	25g	•
	Bismuth nitrate-5-water. LR Bi(NO ₃) ₃ ·5H ₂ O = 485.1 Min assay 98%	BEI562	25g	•
	R: 8.36/37/38 S: 17.26.36 CAS: 10035-06-0 UN: 5.1/1477 EINECS: 2337918			
	Biuret reagent (working) solution for protein	BI1572	500ml	•
	R: 36/38 S: 26			
	Bleaching powder (calcium hypochlorite) about 35% available Cl	BL1574	500g	•
	R: 8-22-31-34-50 S: 26-36/37/39-45-61 CAS: 7778-54-3 UN: 5.1/2208 EINECS: 2319087			
	Boric acid LR (orthoboric acid) H ₃ BO ₃ = 61.83 Min assay (acidimetric) 99.5%	BOI580	500g	•
	CAS: 10043-35-3 EINECS: 2331392			
	Brass filings	BRI586	250g	•














Hazard	Chemical	Cat. No.	Qty.	Price
	Bromine LR Br = 79.90 Min assay (iodometric) 99.5% Wt per ml at 20°C about 3.1g	BRI594 BRI600	100ml • 10x1ml • (Ampoules)	
				
	R: 26-35-50 S: 7/9-26-45-61 CAS: 7726-95-6 UN: 8/1744 EINECS: 2317781			
	Bromobenzene LR C ₆ H ₅ Br = 157.01 Min (assay) GLC 97% Wt per ml at 20°C 1.49-1.50g Boiling range (95%) 154-158°C	BRI608	100ml •	
	R: 10-38-51/53 S: 61 CAS: 108-86-1 UN: 3.3/2514 EINECS: 2036238			
	I - Bromobutane LR CH ₃ CH ₂ CH ₂ CH ₂ Br = 137.02 Min (assay) (ex Br) 98% Wt per ml at 20°C 1.270-1.277 Boiling range (95%) 100-103°C	BRI614	100ml •	
	16°C			
	R: 10-20/21/22 S: 16-26-28 CAS: 109-65-9 UN: 3.2/1126 EINECS: 2036919			
	2 - Bromobutane LR CH ₃ CHBrCH ₂ CH ₃ = 137.02 Min assay (GLC) 97% Wt per ml at 20°C 1.25-1.27g	BRI618 BRI620	25ml • 100ml •	
	21°C			
	R: 10-20/21/22 S: 16-26-28 CAS: 78-76-2 UN: 3.2/2339 EINECS: 2011407			
	Bromocresol green (pH indicator) pH 3.6-5.2 yellow to blue	BRI622 BRI624	1g • 5g •	
	CAS: 76-60-8			
	Bromocresol green 0.04% indicator solution	BRI628 BAI630	100ml • 500ml •	
	R: 11 S: 7-16 UN: 3.2/1993 EINECS: 2009728			
	Bromocresol purple (pH indicator) pH 5.2-6.8 yellow to violet	BRI634	5g •	
	CAS: 115-40-2			
	Bromocresol purple 0.04% indicator solution	BRI638 BRI640	100ml • 500ml •	
	R: 10 S: 16-24/25 UN: 3.3/1170 EINECS: 2040878			
	I - Bromoethane LR C ₂ H ₅ Br = 108.97 Wt per ml at 20°C 1.456-1.460g Boiling range (95%) 37-40°C	BRI644	100ml •	
	R: 11-20/22-40 S: 36/37 CAS: 74-96-4 UN: 6.1/1891 EINECS: 2008258			
	I - Bromohexane LR CH ₃ (CH ₂) ₄ CH ₂ Br = 165.08 Min assay (ex Br) 97% Wt per ml at 20°C 1.174-1.177g Boiling range (95%) 151-158°C	BRI648	25ml •	
	52°C			
	R: 10-36/38 S: 26-28 CAS: 111-25-1 UN: 3.3/1993 EINECS: 2038502			

Hazard	Chemical	Cat. No.	Qty.	Price
	2 - Bromo -2 - methylpropane LR (t- butyl bromide) (CH ₃) ₃ CBr = 137.02 Min assay (GLC) 99% Wt per ml at 20°C 1.218- 1.221g	BRI660 BRI662	25ml • 100ml •	
	21°C			
	R: 10-20/21/22 S: 16-26-28 CAS: 507-19-7 UN: 3.2/2342 EINECS: 2080659			
	Bromphenol blue (pH indicator) pH 2.8-4.6 yellow to violet	BRI666	5g •	
	CAS: 115-39-9			
	Bromphenol blue 0.04% indicator solution	BRI670 BRI672	100ml • 500ml •	
	R: 10 UN: 3.3/1993 EINECS: 2040862			
	Bromothymol blue (pH indicator) pH 6.0-7.6 yellow to blue	BRI676	5g •	
	CAS: 76-59-5			
	Bromothymol blue 0.04% indicator solution	BRI680 BRI682	100ml • 500ml •	
	R: 10 UN: 3.3/1993 EINECS: 2009712			
	Buffer solution Glycine pH2	BUI686	500ml •	
	Buffer solution Phthalate pH3	BUI688	500ml •	
	Buffer solution Phthalate pH4	BUI690	500ml •	
	Buffer solution Phthalate pH5	BUI692	500ml •	
	Buffer solution Phosphate pH6	BUI694	500ml •	
	Buffer solution Phosphate pH7	BUI696	500ml •	
	Buffer solution Borate pH8	BUI698	500ml •	
	Buffer solution Borate pH9	BUI700	500ml •	
	Buffer solution Borate pH10	BUI702	500ml •	
	Buffer tablets pH4	BUI706	50 •	
	Buffer tablets pH7	BUI708	50 •	
	Buffer tablets pH9.2	BUI710	50 •	
	Each tablet makes 100ml of solution			
	Butanedioic acid see Succinic acid			
	Butanoic acid LR (n-butyric acid) CH ₃ CH ₂ CH ₂ COOH = 88.11 Min assay (GLC) 99% Wt per ml at 20°C 0.956-0.958g Boiling range (95%) 160-164°C	BUI730 BUI732	100ml • 250ml •	
	R: 34 S: 26-36-45 CAS 107- 92-6 UN: 8/2820 EINECS: 2035323			
	Butan-1-ol LR (n-butyl alcohol) CH ₃ (CH ₂) ₃ OH = 74.12 Min assay (GLC) 99.5% Wt per ml at 20°C 0.809-0.811g Boiling range (95%) 116-118°C	BUI736 BUI738	500ml • 2.5Lt •	
	29°C			
	R: 10-22-37/38-41-67 S: 7/9-13-26-37/39-46 CAS: 71-36-3 UN: 3.3/1120 EINECS: 2007516			

Hazard	Chemical	Cat. No.	Qty.	Price
	Butan-2-ol LR (sec-butyl alcohol) CH ₃ CH ₂ CH(OH)CH ₃ = 74.12 Min assay (GLC) 99% Wt per ml at 20°C 0.805-0.807g Boiling range (95%) 98-100°C R: 10-36/37-67 S: 7/9-13-24/25-26-46 CAS: 78-92-2 UN: 3.3/1120 EINECS: 2011585	BUI742	500ml •	
		BUI744	2.5 Lt •	
	Butanone LR (ethyl methyl ketone) C ₂ H ₅ COCH ₃ = 72.11 Min assay (GLC) 99% Wt per ml at 20°C 0.803-0.805g R: 11-36-66-67 S: 9-16 CAS: 78-93-3 UN: 3.2/1193 EINECS: 2011590	BUI748	500ml •	
		BUI750	2.5Lt •	
	n-Butyl acetate LR CH ₃ COO(CH ₂) ₃ CH ₃ = 116.16 Assay (saponification) 99-101% Wt per ml at 20°C 0.878-0.881g Boiling range (95%) 121-127°C R: 10-66-67 S: 25 CAS: 123-86-4 UN: 3.2/1123 EINECS: 2046581	BUI754	500ml •	
		BUI756	2.5Lt •	
	n-Butylamine LR CH ₃ (CH ₂) ₃ NH ₂ = 73.14 Min assay (GLC) 98% Wt per ml at 20°C 0.736-0.742g Boiling range (95%) 77-79°C R: 11-20/21/22-35 S: 3-16-26-29-36/37/39-45 CAS: 109-73-9 UN: 3.2/1125 EINECS: 2036992	BUI758	250ml •	
	n-Butylaldehyde LR (butanal) CH ₃ CH ₂ CH ₂ CHO = 72.11 Min assay (ex. CHO) 98% Wt per ml at 20°C about 0.804g Boiling range 95% 74-79°C R: 11 S: 9-29-33 CAS: 123-72-8 UN: 3.2/1129 EINECS: 2046466	BUI762	100ml •	
		BUI764	500ml •	
	Caffeine LR C ₈ H ₁₀ N ₄ O ₂ = 194.19 R: 22 CAS: 58-08-2 UN: 6.1/1544 EINECS: 2003621	CAI826	25g •	
		CAI828	100g •	
	Calcium granules Ca = 40.08 R: 15 S: 8-24/25-43 CAS: 7440-70-2 UN: 4.3/1401 EINECS: 2311795	CAI832	25g •	
		CAI834	100g •	
	Calcium acetate LR (calcium ethanoate) (CH ₃ COO) ₂ Ca = 158.17 Min assay (on dried material) (ex Ca) 97% CAS: 62-54-4 EINECS: 2005409	CAI838	250g •	
	Calcium bromide LR approximately CaBr ₂ ·2H ₂ O R: 38 S: 22-24/25 CAS: 7789-41-5 EINECS: 2321646	CAI840	100g •	













Hazard	Chemical	Cat. No.	Qty.	Price
	Calcium carbide T. approximately CaC ₂ R: 15 S: 43 CAS: 75-20-7 UN: 4.3/1402 EINECS: 2008483	CAI842	100g •	
		CAI844	500g •	
	Calcium carbonate precipitated LR CaCO ₃ = 100.09 Min assay 98% CAS: 471-34-1 EINECS: 2074399	CAI846	1kg •	
		CAI848	3kg •	
	Calcium carbonate (marble) - see marble chips			
	Calcium chloride anhydrous granular fine LR CaCl ₂ = 110.99 Min assay (ex Cl) 90%	CAI856	500g •	
	Calcium chloride anhydrous Almond shaped LR CaCl ₂ = 110.99 Min assay (exCl) 90% R: 36 S: 22-24 CAS: 10043-52-4 EINECS: 2331408	CAI862	500g •	
	Calcium chloride 6 - water LR CaCl ₂ ·6H ₂ O = 219.08 Min assay (ex Cl) 98% R: 36 S: 22-24 CAS: 7774-34-7 EINECS: 2331408	CAI868	500g •	
	Calcium hydride LR CaH ₂ = 42.10 R: 15 S: 7/8-24/25-43 CAS: 7789-78-8 UN: 4.3/1404 EINECS: 2321892	CAI876	25g •	
	Calcium hydroxide LR Ca(OH) ₂ = 74.09 Min assay (acidimetric) 90% R: 41 S: 22-24-26-39 CAS: 1305-62-0 EINECS: 2151373	CAI880	1Kg •	
	Calcium hypochlorite see Bleaching Powder			
	Calcium nitrate 4- water LR Ca(NO ₃) ₂ ·4H ₂ O = 236.15 Min assay (ex Ca) 98% R: 8-36 CAS: 10124-37-5 UN: 5.1/1454 EINECS: 2333321	CAI884	500g •	
	Calcium oxalate LR (COO) ₂ Ca·H ₂ O = 146.12 Min assay (ex oxalate) 98% R: 21/22 S: 24/25 -36/37 CAS: 5794-28-5 UN: 6.1/2811 EINECS: 2092601	CAI888	100g •	
	Calcium oxide powder CaO = 56.08 R: 14-34-36/37/38 S: 7/8 CAS: 1305-78-8 UN: 8/1759 EINECS: 2151389	CAI892	500g •	
	Calcium oxide lump T CaO = 56.08 R: 14-34-36/37/38 S: 7/8 CAS: 1305-78-8 UN: 8/1759 EINECS: 2151389	CAI896	1Kg •	






Hazard	Chemical	Cat. No.	Qty.	Price
	Chloroform LR (trichloromethane) CHCl ₃ = 119.38 Min assay (GLC) 99% Wt per ml at 20°C 1.474-1.480g	CH2068 CH2070	500ml 2.5Lt	• •
	Chloroform AR CHCl ₃ = 119.38 Min assay 99.5% Wt per ml at 20°C 1.475g	CH2073	500ml	•
	R: 22-38-40-48/20/22 S: 36/37 CAS: 67-66-3 UN: 6.1/1888 EINECS: 2006638			
	2-Chloro-2-methylpropane LR (CH ₃) ₃ CCl = 92.57 Min assay 98% Wt per ml at 20°C 0.85g Boiling range 51-52°C	CH2080	100ml	•
	-6°C R: 11 S: 9-16-33 UN: 3.2/1127 EINECS: 2080664			
	Cholesterol C ₂₇ H ₄₈ O = 386.66	CH2086	25g	•
	CAS: 57-88-5 EINECS: 2003532			
	Chromium (III) chloride 6 - water LR CrCl ₃ ·6H ₂ O = 266.45 Min assay (ex Cr) 95%	CH2100	100g	•
	R: 36/38 S: 26-28 CAS: 10060-12-5 EINECS: 2330383			
	Chromium (III) nitrate 9 - water LR Cr(NO ₃) ₃ ·9H ₂ O = 400.15 Assay (ex Cr) 98-101%	CH2104	100g	•
	R: 8-36/38 S: 3-26-28 CAS: 7789-02-8 UN: 5.1/2720 EINECS: 2369211			
	Chromium (III) oxide (Green) LR Cr ₂ O ₃ = 151.99 Min Assay 99%	CH2108	250g	•
	R: 36/38 S: 26.28 CAS: 1308-38-9 EINECS: 2151609			
	Chromium (III) potassium sulphate 12 - water LR CrK(SO ₄) ₂ ·12H ₂ O = 499.39 Min assay (iodometric) 98%	CH2110	500g	•
	R: 36/38 S: 26-28 CAS: 7788-99-0 EINECS: 2334016			
	Chromium (III) sulphate basic LR Approximately Cr ₂ (SO ₄) ₃ ·6H ₂ O	CH2118	100g	•
	CAS: 15244-38-9 EINECS: 2355958			
	Chromium (VI) oxide LR CrO ₃ = 99.99 Min assay (iodometric) 99%	CH2120 CH2122	250g 500g	• •
				
				
	R: 49-8-25-35-43-50/53 S: 53-45-60-61 CAS: 1333-82-0 UN: 5.1/1463 EINECS: 2156078			













Hazard	Chemical	Cat. No.	Qty.	Price
	Cinnamic acid LR (3 - phenylpropenoic acid) C ₆ H ₅ ·CH=CH·COOH = 148.16 Min assay (acidimetric) 99%	CI2126	100g	•
	R: 36/37/38 S: 26-28 CAS: 621-82-9 EINECS: 2107083			
	Citric acid crystals LR (2 - hydroxypropane - 1, 2, 3 - tricarboxylic acid) C(OH)(COOH)(CH ₂ ·COOH) ₂ ·H ₂ O = 210.14 Min assay (acidimetric) 99.5%	CI2130 CI2132	500g 3Kg	• •
	Citric acid AR C(OH)(COOH)(CH ₂ ·COOH) ₂ ·H ₂ O = 210.14 Min assay 99.7%	CI2135	500g	•
	R: 36 S: 24/25 CAS: 5949-29-1 EINECS: 2010691			
	Citric acid anhydrous LR C(OH)(COOH)(CH ₂ ·COOH) ₂ = 192.13 Min assay (acidimetric) 99.5%	CI2140	500g	•
	R: 36 S: 24/25 CAS: 77-92-9 EINECS: 2010691			
	Clay powder	CL2146	1Kg	•
	Clinistix see page 219			
	Cobalt metal powder LR Co = 58.98	CO2150	25g	•
	R: 42/43. 53 S: 22.24. 37. 61 CAS: 7440-48-4 UN: 4.1/3089 EINECS: 2311580			
	Cobalt (II) carbonate basic LR Min cobalt (Co) content 47%	CO2154	100g	•
	R: 22-43-50/53 S: 24-37-60-61 CAS: 513-79-1 EINECS: 2081694			
	Cobalt (II) chloride LR CoCl ₂ ·6H ₂ O = 237.93 Min assay (ex Co) 97%	CO2158 CO2160	100g 500g	• •
	R: 49-22-42/43-50/53 S: 53-22-45-60-61 CAS 7791-13-1 UN: 6.1/3288 EINECS: 2315894			
	Cobalt (II) nitrate LR Co(NO ₃) ₂ ·6H ₂ O = 291.03 Assay (ex Co) 97-101%	CO2166	100g	•
	R: 8-36/38 S: 26 CAS: 10026-22-9 UN: 5.1/1477 EINECS: 2334021			
	Cobalt (II) sulphate LR CoSO ₄ ·7H ₂ O = 281.10 Min assay (ex Co) 97%	CO2172	100g	•
	R: 49-22-42/43-50/53 S: 53-22-45-60-61 CAS: 10026-24-1 EINECS: 2333342			







Hazard	Chemical	Cat. No.	Qty.	Price
	Congo red (pH indicator) pH 3.0-5.0 violet to red-orange	CO2180	5g	•
	CAS 573-58-0 EINECS: 2093584			
	Congo red solution	CO2184	100ml	•
	Copper foil 0.10mm T Cu = 63.55	CO2190	250g	•
	Copper foil 0.10mm LR (Bright Finish) Cu = 63.55	CO2192	250g	•
	Copper powder precipitated Cu = 63.55	CO2198	100g	•
	Copper turnings Cu = 63.55	CO2204	500g	•
	CAS 7440-50-8 EINECS: 2311596			
	Copper (I) chloride LR (cuprous chloride) CuCl = 99.00 Min assay (ex Cu) 96%	CO2208	100g	•
	R: 22-50/53 S: 22-60-61 CAS: 7758-89-6 UN: 8/2802 EINECS: 2318429			
	Copper (I) oxide LR (cuprous oxide) Cu ₂ O = 143.09 Min assay 94%	CO2214 100g CO2216 500g	•	•
	R: 22 S: 22 CAS: 1317-39-1 UN: 6-1/3288 EINECS: 2152707			
	Copper (II) acetate I - water LR (cupric acetate) (CH ₃ COO) ₂ Cu.H ₂ O = 199.65 Min assay (ex Cu) 98%	CO2220	250g	•
	R: 22 S: 24/25 CAS: 142-71-2 EINECS: 2055533			
	Copper (II) bromide LR CuBr ₂ = 223.35 Min assay (ex Cu) 98% (ex Br) 98%	CO2222	100g	•
	R: 36/38 S: 26-28 CAS: 7789-45-9 UN: 8/1759 EINECS: 2321672			
	Copper (II) carbonate basic LR approximately CuCO ₃ .Cu(OH) ₂ .H ₂ O Copper (Cu) Not less than 55%	CO2224 250g CO2226 500g CO2228 3Kg	•	•
	R: 22 S: 24/25 CAS: 12069-69-1 UN: 6.1/3288 EINECS: 2351136			
	Copper (II) chloride LR CuCl ₂ .2H ₂ O = 170.48 Min assay (ex Cu) 98%	CO2230	250g	•
	R: 22-36/37/38 S: 26 CAS: 10125-13-0 UN: 8/2802 EINECS: 2312102			
	Copper (II) nitrate LR Cu(NO ₃) ₂ .3H ₂ O = 241.60 Assay (ex Cu) 95-103%	CO2240	250g	•
	R: 8-20/22 S: 28 CAS: 3251-23-8 UN: 5.1/1477 EINECS: 2218385			










Hazard	Chemical	Cat. No.	Qty.	Price
	Copper (II) oxide wire form	CO2246	100g	•
	Copper (II) oxide powder LR CuO = 79.55 Min assay 97%	CO2250 250g CO2252 500g	•	•
	Copper (II) oxide powder AR CuO = 79.55 Min assay 98.0%	CO2255	100g	•
	R: 20/22 CAS: 1317-38-0 EINECS: 2152691			
	Copper (II) sulphate - 5- water small crystals LR CuSO ₄ .5H ₂ O = 249.68 Assay 98.5-101%	CO2260 500g CO2262 1Kg CO2266 3Kg	•	•
	Copper (II) sulphate 5 - water AR CuSO ₄ .5H ₂ O = 249.68 Min assay 99.5% pH (5% solution) 3.8-4.5	CO2271	500g	•
	R: 22-36/38-50/53 S: 22-60-61 CAS: 7758-99-8 UN: 6.1/3288 EINECS: 2318476			
	Copper (II) sulphate anhydrous LR CuSO ₄ = 159.60 Min assay (ex Cu) 98%	CO2276	250g	•
	R: 22-36/38-50/53 S: 22-60-61 CAS: 7758-98-7 UN: 6-1/3288 EINECS: 2318476			
	Copper (II) sulphide T Mainly CuS	CO2282	100g	•
	CAS: 1317-40-4			
	Cotton wool absorbent white	CO05000	500g	•
	Cotton wool non-absorbent white	CO05005	500g	•
	See also – Page 31			
	Cresol red (pH indicator) pH 0.2-1.8 red to yellow pH 7.2-8.8 yellow to violet-red	CR2314	5g	•
	CAS: 1733-12-6			
	Cresol red 0.02% indicator solution	CR2318 100ml CR2320 500ml	•	•
	R: 10 S: 16-24/25 UN: 3.3/1170 EINECS: 2170642			
	Crystal violet stain	CR2324	25g	•
	R: 22-40-41-50/53 S: 22-26-36/37/39-61 CAS: 548-62-9 UN: 9/3077 EINECS: 2089536			
	Crystal violet 1% solution	CR2328	100ml	•
	Cupric salts see Copper II salts Cuprous salts see Copper I salts			







Hazard	Chemical	Cat. No.	Qty.	Price
	Cyclohexane LR CH ₂ (CH ₂) ₄ CH ₂ = 84.16 Min assay (GLC) 99% Wt per ml at 20°C 0.776-0.780g Boiling range (95%) 80-82°C	CY2332 CY2334	500ml 2.5lt	• •
				
	R: 11-38-50/53-65-67 S: 9-16-33-60-61-62 CAS: 110-82-7 UN: 3.1/1145 EINECS: 2038062			
	Cyclohexanol LR CH ₂ (CH ₂) ₄ CH ₂ OH = 100.16 Min assay (GLC) 98% Wt per ml at 20°C about 0.95g	CY2340	500ml	•
	R: 20/22-37/38 S: 24/25 CAS: 108-93-0 EINECS: 2036306			
	Cyclohexanone LR CH ₂ (CH ₂) ₄ CO = 98.15 Min assay (GLC) 99% Wt per ml at 20°C 0.945-0.947g	CY2346	500ml	•
	R: 10-20 S: 25 CAS: 108-94-1 UN: 3.3/1915 EINECS: 2036311			
	Cyclohexene LR CH:CH(CH ₂) ₃ CH ₂ = 82.15 Min assay (GLC) 99% Wt per ml at 20°C 0.809-0.810g Boiling range (95%) 82-85°C	CY2350	250ml	•
				
	R: 11-21/22 S: 16-23-33-36/37 CAS: 110-83-8 UN: 3.2/2256 EINECS: 2038078			
	L - Cystine [S.CH ₂ CH(NH ₂).COOH] ₂ = 240.30 Min assay (NAT) 99%	CY2356	25g	•
	CAS: 56-89-3 EINECS: 2002963			
	n - Decane LR CH ₃ (CH ₂) ₈ CH ₃ = 142.29 Min assay (GLC) 99% Wt per ml at 20°C 0.728-0.730g Boiling range (95%) 171-175°C	DE2380	25ml	•
	R: 10 S: 16-23-24-33 CAS: 124-18-5 UN: 3.3/2247 EINECS: 2046864			
	Decanedioyl chloride see Sebacyl chloride			
	Decan - I - ol (n - decanol) CH ₃ (CH ₂) ₈ CH ₂ OH = 158.28 Wt per ml at 20°C about 0.83g	DE2390	500ml	•
	R: 20-36/37/38 S: 26-36/37 CAS: 112-30-1 EINECS: 2039569			
	Decon 90 (registered trade mark) Replaces I.M.S.	DE2394 DE2398	1Lt 5Lt	• •
	R: 36/38 S: 24/25-26			
	Full range of Decon and Cleaning Products see page 26			
	Dehydrating alcohol (No permit required) Replaces I.M.S.	DE2406	2.5Lt	•
	R: 11-20/22 S: 7-16-24-45 UN: 3.2/1170			



Hazard	Chemical	Cat. No.	Qty.	Price
	Devarda's alloy powder LR about 45% Al, 50% Cu and 5% Zn CAS: 8049-11-4	DE2414	100g	•
	1,2 - Diaminoethane LR (ethylenediamine) NH ₂ CH ₂ CH ₂ NH ₂ = 60.10 Min assay (acidimetric) 98% Wt per ml at 20°C 0.897-0.902g	DI2426	500ml	•
	R: 10-21/22-34-42/43 S: 23-26-36/37/39-45 CAS: 107-15-3 UN: 8/1604 EINECS: 2034686			
	1,6 - Diaminohexane LR (hexamethylenediamine) NH ₂ (CH ₂) ₆ NH ₂ = 116.21 Min assay (acidimetric) 98.5%	DI2430	25g	•
	R: 21/22-34-37 S: 22-26-36/37/39-45 CAS: 124-09-4 UN: 8/2280 EINECS: 2046796			
	1,6 - Diaminohexane 5% aqueous solution	DI2434	250ml	•
	R: 21/22-34-37 S: 22-26-36/37/39-45 UN: 8/3267			
	Diastase from malt (mixed α and β amylase) Contains approx. 20% reducing sugars determined as glucose	DI2438	100g	•
	R: 42 S: 22-24-36/37 CAS: 9000-92-4 EINECS: 2325677			
	Di - n - butyl phthalate LR C ₆ H ₄ (COO.C ₄ H ₉) ₂ = 278.35 Min assay (GLC) 98% Wt per ml at 20°C 1.042-1.045g	DI2446	500ml	•
	R: 61-50-62 S: 53-45-61 CAS: 84-74-2 UN: 9/3082 EINECS: 2015574			
	Dichloroacetic acid LR CHCl ₂ COOH = 128.94 Assay (acidimetric) 99-101% Wt per ml at 20°C 1.566-1.568°C	DI2450	100ml	•
	R: 35-50 S: 26-45-61 CAS: 79-43-6 UN: 8/1764 EINECS: 2012070			
	1,4 - Dichlorobenzene LR C ₆ H ₄ Cl ₂ = 147.00 Min assay (GLC) 97%	DI2454	250g	•
	R: 36-50/53 S: 24/25-46-60-61 CAS: 106-46-7 UN: 6.1/1591 EINECS: 2034005			
	1,2 - Dichloroethane LR (ethylene chloride) CH ₂ ClCH ₂ Cl = 98.96 Min assay (GLC) 99% Wt per ml at 20°C 1.251-1.254g	DI2460	500ml	•
	R: 45-11-22-36/37/38 S: 53-45 CAS: 107-06-2 UN: 3.2/1184 EINECS: 2034581			
	Dichloromethane LR (methylene chloride) CH ₂ Cl ₂ = 84.93 Min assay (GLC) 98% Wt per ml at 20°C 1.323-1.327g	DI2464 DI2466	500ml 2.5Lt	• •
	R: 40 S: 24/25-23-36/37 CAS: 75-09-2 UN: 6.1/1593 EINECS: 2008389			









Hazard	Chemical	Cat. No.	Qty.	Price
	2 - 6 Dichlorophenolindophenol (D.C.PI.P)			
		DI2470	1g	•
		DI2472	5g	•
	Dichlorophenolindophenol tablets for the determination of vitamin C	DI2476	per 10	•
	CAS: 620-45-1 EINECS: 2134798			
	2 - 6 Dichlorophenolindophenol 0.1% w/v solution	DI2478	100ml	•
	di- Dodecanoyl peroxide see di - lauroyl peroxide			
	Diethylamine LR (C ₂ H ₅) ₂ NH = 73.14	DI2484	500ml	•
-36°C	Min assay (acidimetric) 99.5%			
	Wt per ml at 20°C 0.702-0.704g			
	R: 11-20/21/22-35 S: 3-16-26-29-36/37/39-45			
	CAS: 109-89-7 UN: 3.1/1154 EINECS: 2037163			
	Diethyl ether LR (C ₂ H ₅) ₂ O = 74.12	DI2488	500ml	•
-40°C	Min assay (GLC) 98%			
	Wt per ml at 20°C 0.713-0.717g			
	R: 12-19-22-66-67 S: 9-16-29-33			
	CAS: 60-29-7 UN: 3.1/1155 EINECS: 2004672			
	Digol LR (Diethylene glycol) (CH ₂ OH.CH ₂) ₂₀ = 106.12	DI2494	500ml	•
	Wt per ml 1.115-1.118g			
	Distillation range (95%) 243-250°C			
	Freezing point -6° to 12°C			
	R: 22 S: 46			
	CAS: 111-46-6 EINECS: 2038722			
	Dimethylbenzene see Xylene			
	Dimethylglyoxime LR CH ₃ C(OH).C(OH).CH ₃ = 116.12	DI2500	25g	•
	Min assay (via nickel complex) 98%	DI2502	100g	•
	R: 22 S: 24/25			
	CAS: 95-45-4 UN: 6.1/2811 EINECS: 2024201			
	2, 4 - Dinitrophenylhydrazine LR (NO ₂) ₂ C ₆ H ₃ .NH.NH ₂ = 198.14	DI2510	25g	•
	R: 2-20/21/22 S: 35-36/37/39-45			
	CAS: 119-26-6 UN: 6.1/1325 EINECS: 2043093			
	1, 4 - Dioxan LR CH ₂ .CH ₂ .O.CH ₂ .CH ₂ .O = 88.11	DI2514	500ml	•
-12°C	Wt per ml at 20°C 1.030-1.035g			
	R: 11-19-36/37-40-66 S: 9-16-36/37-46			
	CAS: 123-91-1 UN: 3.2/1165 EINECS: 2046618			
	Diphenylamine LR (C ₆ H ₅) ₂ NH = 169.23	DI2518	100g	•
	R: 23/24/25-33-50/53 S: 28-36/37-45-60-61			
	CAS: 122-39-4 UN: 9/3077 EINECS: 2045394			











Hazard	Chemical	Cat. No.	Qty.	Price
	Direct Red 23 CL.29160	DI2522	5g	•
	CAS: 3441-14-3 EINECS: 2223484			
	DPX mountant for microscopy	DP2530	100ml	•
25°C	R: 10-20/21-38 S: 25-36			
	UN: 3.3/1307			
	Dutch metal in books of 25 leaves, 150 x 150mm	DU2542	per book	•
	E.D.T.A. disodium salt LR (ethylenediaminetetra - acetic acid) [CH ₂ .N(CH ₂ .COOH).CH ₂ .COONa] ₂ .2H ₂ O = 372.24	ED2570	100g	•
	Min assay (via zinc complex) 98%	ED2572	500g	•
	E.D.T.A. disodium salt AR [CH ₂ .N(CH ₂ .COOH).CH ₂ .COONa] ₂ .2H ₂ O = 372.24	ED2575	100g	•
	Min assay 99.5%			
	pH (5% solution) 4.3-4.7			
	R: 22			
	CAS: 139-33-3 EINECS: 2053583			
	Eosin (spirit/water soluble) stain R: 36 S: 22-36	EO2590	5g	•
	CAS: 17372-82-1 EINECS: 2414096			
	Eosin 1% alcoholic solution	EO2596	100ml	•
	R: 10 S: 16-26 UN: 3.3/1170			
	Eosin 2% aqueous solution	EO2602	100ml	•
	Eriochrome black Cl 14645	ER2606	25g	•
	CAS: 1787-61-7 EINECS: 2172503			
	Eriochrome blue black R Cl 15705	ER2608	5g	•
	EINECS: 2198102			
	Erythrosin B stain	ER2610	5g	•
	CAS: 16423-68-0 EINECS: 2404748			
	Ethanal see Acetaldehyde			
	Ethanedioic acid LR (oxalic acid) (COOH) ₂ .2H ₂ O = 126.07	ET2620	250g	•
	Min assay 99.5%	ET2622	500g	•
	R: 21/22 S: 24/25			
	CAS: 6153-56-6 EINECS: 2056343			
	Ethane 1,2 diol LR CH ₂ (OH).CH ₂ OH = 62.07	ET2630	500ml	•
	Min assay (GLC) 99%	ET2632	2.5lt	•
	Wt per ml at 20°C 1.112-1.115g			
	Boiling range (95%) 194-199°C			
	R: 22			
	CAS: 107-21-1 EINECS: 2034733			






Hazard	Chemical	Cat. No.	Qty.	Price
	Ethanol 99/100% LR (Duty paid) C ₂ H ₅ OH = 46.07 Min assay (GLC) 99% Wt per ml at 20°C not more than 0.7930g R: 11 S: 7-16 CAS: 64-17-5 UN: 3.2/1170 EINECS: 2005786	ET2634 ET2636	100ml • 500ml •	
Ethanol, methylated see Methylated spirit				
	2 - Ethoxyethanol LR (cellosolve) C ₂ H ₅ O.CH ₂ .CH ₂ OH = 90.12 Min assay (GLC) 98% Wt per ml at 20°C 0.928-0.930g R: 10-20/21/22-60-61 S: 45-53 CAS: 110-80-5 UN: 3.3/1171 EINECS: 2038041	ET2646	500ml •	
	Ethyl acetate LR (ethyl ethanoate) CH ₃ .COOC ₂ H ₅ = 88.11 Min assay (GLC) 99% Wt per ml at 20°C 0.899-0.902g Boiling range (95%) 76-78°C	ET2650 ET2652	500ml • 2.5Lt •	
	Ethyl acetate AR CH ₃ .COOC ₂ H ₅ = 88.11 Min assay 99.5% Wt per ml at 20°C 0.9006g R: 11-36-66-67 S: 16-23-33 CAS: 141-78-6 UN: 3.2/1173 EINECS: 2055004	ET2655	500ml •	
	Ethylamine solution 70% w/w in water C ₂ H ₅ .NH ₂ Wt per ml at 20°C about 0.8g R: 12-36/37 S: 16-26-29 CAS: 75-04-7 UN: 3.1/2270 EINECS: 2008347	ET2660	500ml •	
	Ethyl 4-aminobenzoate LR NH ₂ .C ₆ H ₄ .COO.C ₂ H ₅ = 165.19 Min assay 99% R: 43 S: 24/25-37 CAS: 94-09-7 EINECS: 2023035	ET2662	100g •	
	Ethylbenzene LR C ₆ H ₅ .C ₂ H ₅ = 106.17 Min assay (GLC) 99% Wt per ml at 20°C 0.864-0.867g R: 11-20 S: 16-24/25-29 CAS: 100-41-4 UN: 3.2/1175 EINECS: 2028494	ET2666	100ml •	
	Ethyl benzoate LR C ₆ H ₅ .COO.C ₂ H ₅ = 150.18 Assay (saponification) 99-100.5% Wt per ml at 20°C 1.044-1.047g R: 36/37/38 S: 26-36 CAS: 93-89-0 EINECS: 2022843	ET2674	100ml •	
	Ethyl cinnamate (ethyl - 3 - phenyl propenoate) C ₆ H ₅ .CH:CH.COO.C ₂ H ₅ = 176.22 Wt per ml at 20°C about 1.049g CAS: 103-36-6 EINECS: 2031046	ET2680	25ml •	
	Ethyl formate H.COO.C ₂ H ₅ = 74.08 Wt per ml at 20°C about 0.92g R: 11-20/22-36/37 S: 9-16-24-26-33 CAS: 109-94-4 UN: 3.1/1190 EINECS: 2037210	ET2684	100ml •	








Hazard	Chemical	Cat. No.	Qty.	Price
	Evolve CH.15 The 'Evolve' range comprises formulations of highly refined hydrocarbons. Evolve CH.15 is specially formulated for cold cleaning applications as a replacement for 1,1,1-Trichloroethane. R: 10 S: 7-16-24/25 UN: 3.3/1993	EV2690	500ml •	
	Fast green FCF stain R: 20/21/22-40 S: 25-37/39 CAS: 2353-45-9 EINECS: 2190915	FA2714	5g •	
	Fehling's solution No I	FE2726	500ml •	
	Fehling's solution No 2 R: 35 S: 26,37/39,45 UN: 8/1824	FE2732	500ml •	
	Ferric salts see Iron III salts			
	Ferrous salts see Iron II salts			
	Feulgens stains see Schiffs reagent			
	Fluorescein LR O.CO.C ₆ H ₄ .C.C ₆ H ₃ (OH).O.C ₆ H ₃ (OH) = 332.31 CAS: 2321-07-5 EINECS: 2190318	FL2750	5g •	
	Fluorescein sodium T CAS: 518-47-8 EINECS: 2082530	FL2754	100g •	
	Formaldehyde solution LR (Methanal) 37-41% w/v HCHO Assay (acidimetric) 37-41% w/v Wt per ml at 20°C 1.070-1.080g R: 23/24/25-34-40-43 S: 26-36/37/39-45-51 CAS: 50-00-0 UN: 8/2209 EINECS: 2000018	FO2758 FO2762	500ml • 2.5Lt •	
	Formic acid LR about 90% H.CO.OH (methanoic acid) Assay (acidimetric) 89-91% Wt per ml at 20°C about 1.205g R: 35 S: 23-26-45 CAS: 64-18-6 UN: 8/1779 EINECS: 2005791	FO2768 FO2770	500ml • 2.5Lt •	
	French chalk see Talc			
	D (-) Fructose LR (Laevulose) O.CH ₂ .(CH.OH) ₃ .C(OH).CH ₂ OH = 180.16 CAS: 57-48-7 EINECS: 2003333	FR2780	100g •	
	Fuchsin (acid) stain R: 20/21/22 CAS: 8052-89-9 EINECS: 2218165	FU2784	5g •	
	Fuchsin 1% aqueous solution	FU2788	100ml •	
	Fuchsin (basic) stain R: 20/21/22 CAS: 632-99-5 EINECS: 2111896	FU2794	5g •	







Hazard	Chemical	Cat. No.	Qty.	Price
	Full range indicator - see Universal indicator			
	Fuller's Earth powder - For absorbtion purposes	FU2798	500g	•
	CAS: 8031-18-3			
	D (+) Galactose anhydrous O(CH.OH) ₄ .CH ₂ .CH ₂ OH = 180.16	GA2800 GA2802	25g 100g	• •
	CAS: 59-23-4 EINECS: 2004164			
	Gelatine powder	GE2810 GE2812	100g 500g	• •
	CAS: 9000-70-8 EINECS: 2325546			
	Gentian violet stain	GE2816	25g	•
	R: 22-40-41-50/53 S: 22-26-36/37/39-61 CAS: 548-62-9 UN: 9/3077 EINECS: 2089536			
	Gibberellic acid C ₁₉ H ₂₂ O ₆ = 346.38	GI2840	1g	•
	CAS: 77-06-5 EINECS: 2010010			
	Giemsa's stain	GI2844	5g	•
	CAS: 51811-82-6 EINECS: 2574382			
	Glass wool S: 24	GL2852	500g	•
	D - Glucose monohydrate LR O ₂ (CH.OH) ₄ .CH ₂ .CH ₂ OH.H ₂ O = 198.17	GL2856	500g	•
	CAS: 5996-10-1 EINECS: 2000751			
	D - Glucose anhydrous LR O ₂ (CH.OH) ₄ .CH ₂ .CH ₂ OH = 180.16	GL2858	500g	•
	D - Glucose AR O ₂ (CH.OH) ₄ .CH ₂ .CH ₂ OH = 180.16 Min pH (10% solution) 4.5	GL2863	500g	•
	CAS: 50-99-7 EINECS: 2000751			
	Glucose - I - phosphoric acid disodium salt C ₆ H ₁₁ .Na ₂ O ₂ P ₄ .H ₂ O = 376.16 Min assay (ex P) 97%	GL2868 GL2870	1g 5g	• •
	CAS: 5996-14-5 EINECS: 2498176			
	L - Glutamic acid (2 - aminopentanedioic acid) NH ₂ .CH(COOH).CH ₂ .CH ₂ .COOH = 147.13 Min assay (ex total N) 99%	GL2874	100g	•
	CAS: 56-86-0 EINECS: 2002937			
	Glycerol LR (propane - 1, 2, 3 - triol) CH ₂ OH.CHOH.CH ₂ OH = 92.09 Min assay (ex density) 98% Wt per ml at 20°C 1.255-1.260g	GL2878 GL2880	500ml 2.5Lt	• •
	CAS: 56-81-5 EINECS: 2002895			










Hazard	Chemical	Cat. No.	Qty.	Price
	Glycerol triacetate LR (CH ₃ .COO) ₃ C ₃ H ₅ = 218.21 Min assay (GLC) 99% Wt per ml at 20°C 1.155-1.157g	GL2884	250ml	•
	CAS: 102-76-1 EINECS: 2030519			
	Glycine see Amino acetic acid			
	Gram's iodine solution	GR2898	100ml	•
	Graphite powder	GR2904	1Kg	•
	CAS: 7782-42-5 EINECS: 2319553			
	Gum acacia (Arabic) R: 36 CAS: 2325195 EINECS: 2325195	GU2914	100g	•
	Gum tragacanth powder	GU2920	100g	•
	CAS: 9000-65-1			
	Haematoxylin stain	HA2946	5g	•
	CAS: 517-28-2 EINECS: 2082373			
	Haematoxylin solution, Delafield's R10-20/22 S: 24 UN: 3.3/1992	HA2950	100ml	•
	Haematoxylin solution, Ehrlich's	HA2956	100ml	•
	R: 10 S: 24/25 UN: 3.3/1993			
	Heptane fraction LR n - Heptane (C ₇ H ₁₆) not less than 85% Wt per ml at 20°C 0.683-0.693g	HE2978	500ml	•
				
	R: 11-38-50/53-65-67 S: 9-16-29-33-60-61-62 CAS: 142-82-5 UN: 3.2/1206 EINECS: 2055638			
	Heptan - 1 - ol LR CH ₃ (CH ₂) ₆ .CH ₂ OH = 116.20 Min assay (GLC) 99% Wt per ml at 20°C 0.821-0.824g R: 21-22-36 S: 36/37 CAS: 111-70-6 EINECS: 2038979	HE2982	100ml	•
	Hexadecan - 1 - ol LR (cetyl alcohol) CH ₃ (CH ₂) ₁₄ .CH ₂ OH = 242.44 Min assay (GLC) 99%	HE2986	250g	•
	CAS: 36653-82-4 EINECS: 2531490			
	Hexamine LR (CH ₂) ₆ N ₄ = 140.19 Min assay (acidimetric) 99%	HE2990	500g	•
	R: 11-42/43 S: 9-22-24-37 CAS: 100-97-0 UN: 4.1/1328 EINECS: 2029058			



















Hazard	Chemical	Cat. No.	Qty.	Price
	n - Hexane LR CH ₃ (CH ₂) ₄ CH ₃ = 86.18 GLC analysis major peak 99% min Wt per ml at 20°C 0.658-0.659g Boiling range not more than 1°C between 67.7 and 69.2°C	HE2996 HE2998	100ml • 500ml •	
	Hexane fraction LR Boiling range 60-70°C Wt per ml at 20°C 0.665-0.683g	HE3002	500ml •	
	R: 11-38-48/20-51/53-62-65-67 S: 9-16-29-33-36/37-61-62 CAS: 110-54-3 UN: 3.1/1208 EINECS: 2037776			
Hexanedioyl chloride see Adipoyl chloride				
	n - Hexanoic acid LR CH ₃ (CH ₂) ₄ COOH = 116.16 Min assay (GLC) 98.5% Wt per ml at 20°C about 0.92g Boiling range (95%) 202-206°C	HE3008	100ml •	
	R: 34 S: 24/25 CAS: 142-62-1 UN: 8/2892 EINECS: 2055507			
	Hexan - 1 - ol LR CH ₃ (CH ₂) ₄ CH ₂ OH = 102.18 Min assay (GLC) 98% Wt per ml at 20°C 0.817-0.819g	HE3014	500ml •	
	R: 22 S: 24/25 CAS: 111-27-3 UN: 6-1/2282 EINECS: 2038523			
	Hex - 1 - ene LR CH ₂ CH(CH ₂) ₃ CH ₃ = 84.16 Min assay (GLC) 96% Wt per ml at 20°C 0.672-0.674g	HE3020	100ml •	
	R: 11-18-36/37/38 S: 15-16-21 CAS: 592-41-6 UN: 3.1/2370 EINECS: 2097531			
L - Histidine monohydrochloride N: CH ₃ NH ₂ CH ₂ CH ₂ CH(NH ₂)COOH.HCl.H ₂ O = 209.63 Min assay (ex N) 99% HI3024 5g • (ex Cl) 99%				
	CAS: 5934-29-2 EINECS: 2114389			
	Hydrazinium sulphate LR NH ₂ .NH ₂ .H ₂ SO ₄ = 130.12 Min assay (iodometric) 98.5%	HY3034	100g •	
	R: 45-23/24/25-43-50/53 S: 53-45-60-61 CAS: 10034-93-2 UN: 6.1/3288 EINECS: 2331104			
	Hydrochloric acid 35% T Wt per ml at 20°C about 1.18g	HY3042	2.5Lt •	
	Hydrochloric acid 36% LR HCl = 36.46 Assay (acidimetric) 35-38% Wt per ml at 20°C about 1.18g	HY3044 HY3046 HY30464 HY3048	1Lt • 2.5Lt • 4x2.5Lt • 2.5Lt* •	
	* supplied in glass Safecoat bottle			
	Hydrochloric acid 36% AR HCl = 36.46 Min assay 35.4% sp.gr 1.18	HY3049	2.5Lt •	
	R: 34-37 S: 26-45 CAS: 7647-01-0 UN: 8/1789 EINECS: 2315957			








Hazard	Chemical	Cat. No.	Qty.	Price
	Hydrochloric acid 2M (2N) std. solution	HY3054	2.5Lt •	
	Hydrochloric acid M (N) std. solution	HY3056 HY3058	2.5Lt • 5Lt •	
	Hydrochloric acid 0.1M (0.1N) std. solution	HY3060 HY3062	2.5Lt • 5Lt •	
	Hydrochloric acid 0.1M (0.1N) CVS To make 1 Lt	HY3066	Pkof 6 •	
	Hydrochloric acid M (N) CVS To make 1 Lt	HY3069	Pkof 6 •	
	R: 34-37 S: 26-45 UN: 8/1789			
	Hydrogen peroxide solution LR (20 volumes) about 6% w/v H ₂ O ₂ Assay contains not less than 6.0% w/v Wt per ml at 20°C about 1.02g	HY3070 HY30704	2Lt • 4 x 2Lt •	
	Hydrogen peroxide solution AR (20 volumes) about 6% w/v H ₂ O ₂ H ₂ O ₂ = 34.01 Assay contains not less than 6.0% w/v H ₂ O ₂ (= 19.8 volumes of available oxygen)	HY3073	500ml •	
	R: 36/38 S: 3-28-36/39-45 CAS: 7722-84-1 EINECS: 2317650			
	Hydrogen peroxide solution LR (100 volumes) about 30% w/v H ₂ O ₂ Wt per ml at 20°C about 1.10g	HY3080 HY3082 HY30824	500ml • 2Lt • 4 x 2Lt •	
	R: 34 S: 3-28-36/39-45 CAS: 7722-84-1 UN: 5.1/2014 EINECS: 2317650			
2 - Hydroxybenzoic acid see Salicylic acid				
DL - 2 - Hydroxybutanedioic acid see Malic acid				
	Hydroxylammonium chloride LR HO.NH ₂ Cl = 69.49 Min assay 97%	HY3086	100g •	
	R: 22-36/38-43-48/22-50 S: 22-24-37-61 CAS: 5470-11-1 UN: 8/3260 EINECS: 2267982			
2 - Hydroxypropane -1, 2, 3 - Tricarboxylic acid see Citric acid				
2 - Hydroxypropanoic acid see Lactic acid				
Indicator books & paper see Page 214				
Indicator solution - See Universal indicator				
	Indigo carmine LR C ₁₆ H ₈ N ₂ O ₈ S ₂ Na ₂ = 466.35 Min assay (absorptiometric) 70%	IN3104	5g •	
	CAS: 860-22-0 EINECS: 2127288			







Hazard	Chemical	Cat. No.	Qty.	Price
	Indol - 3 - yl - acetic acid LR C ₆ H ₄ NH.CH.C ₂ H ₄ .COOH = 175.19 Min assay (acidimetric) 96%	IN3108 IN3110	1g 5g	• •
	CAS: 87-51-4 EINECS: 2017482			
	Indol - 3 - yl - butyric acid LR C ₆ H ₄ NH.CH.C(CH ₂) ₃ .COOH = 203.24	IN3120	1g	•
	R: 25 S: 22-24/25 CAS: 133-32-4 UN: 6.1/2811 EINECS: 2051015			
	Invertase concentrate from yeast Wt per ml at 20°C about 1.17g	IN3128 IN3130	25ml 100ml	• •
	CAS: 9001-57-4 EINECS: 2326157			
	Iodine resublimed LR I = 126.90 Min assay 99.5%	IO3140 IO3142	100g 500g	• •
	Iodine AR I = 126.90 Min assay 99.9%	IO3145	100g	•
	R: 20/21-50 S: 23-25-61 CAS: 7553-56-2 UN: 6-1/3290 EINECS: 2314424			
	Iodine 0.05M (0.1N) Standard solution	IO3150	2.5Lt	•
	Iodine 0.05M (0.1N) C.V.S. To make 1Lt R:22 S:24/25 EINECS: 2314424 UN: 6-1/2810	IO3156	Pk of 6	•
	Iodine solution with 1% KI	IO3158 IO3160	500ml 2.5Lt	• •
	Iodobenzene LR C ₆ H ₅ I = 204.01 Min assay (ex l) 98% Wt per ml at 20°C 1.81-1.83g	IO3168	25ml	•
	R: 20/21/22 S: 23-24/25 CAS: 591-50-4 EINECS: 2097196			
	I - Iodobutane LR (n-butyl iodide) CH ₃ .CH ₂ .CH ₂ .CH ₂ I = 184.02 Min assay (GLC) 98.5% Wt per ml at 20°C 1.60-1.62g	IO3172	25ml	•
	R: 10-21/22 S: 25 CAS: 542-69-8 UN: 6.1/2810 EINECS: 2088244			
	Iodoethane LR (ethyl iodide) C ₂ H ₅ I = 155.97 Min assay (GLC) 99% Wt per ml at 20°C 1.920-1.930g	IO3176	25ml	•
	R: 10-36/37/38 S: 23-26 CAS: 75-03-6 UN: 6.1/2810 EINECS: 2008331			

Hazard	Chemical	Cat. No.	Qty.	Price
	Iodomethane LR (methyl iodide) CH ₃ I = 141.94 Min assay (GLC) 99% Wt per ml at 20°C 2.265-2.275g	IO3188	25ml	•
	R: 21-23/25-37/38,40 S: 36/37-38-45 CAS: 74-88-4 UN: 6.1/2644 EINECS: 2008195			
	Ion exchange resins			
	Amberjet IR-1200 (H) Hydrogen form, strongly acidic	IO3192	500g	•
	Amberlite IRA-400 Chloride form, strongly basic	IO3196	500g	•
	Iron filings, coarse Fe = 55.85	IR3200 IR3202	500g 3Kg	• •
	Iron filings, fine Fe = 55.85	IR3206 IR3208	500g 3Kg	• •
	Iron powder, reduced by hydrogen Fe = 55.85 Min assay (metallic iron) 95%	IR3214	500g	•
	CAS: 7439-89-6 EINECS: 2310964			
	Iron (II) carbonate saccharated, about 50% FeCO₃	IR3218	250g	•
	CAS: 1335-56-4			
	Iron (II) oxalate 2 - water LR (COO) ₂ Fe.2H ₂ O = 179.90 Min assay 98.5%	IR3224	250g	•
	R: 21/22 S: 24/25 CAS: 6047-25-2 UN: 6.1/2449 EINECS: 2082174			
	Iron (II) sulphate 7 - water T Fe ₂ SO ₄ .7H ₂ O = 278.01	IR3226	1Kg	•
	Iron (II) sulphate 7 - water LR FeSO ₄ .7H ₂ O = 278.01 Min assay (by KMnO ₄) 98%	IR3228	500g	•
	R: 22 S: 24/25 CAS: 7720-78-7 EINECS: 2317535			
	Iron (II) sulphide, broken sticks T	IR3236	500g	•
	R: 32 CAS: 1317-37-9 EINECS: 2152686			
	Iron (III) chloride anhydrous LR (Ferric chloride) FeCl ₃ = 162.21 Min assay (iodometric) 96%	IR3240	250g	•
	R: 22-38-41 S: 7/8-26-39 CAS: 7705-08-0 UN: 8/1773 EINECS: 2317294			
	Iron (III) chloride 6 - water LR FeCl ₃ .6H ₂ O = 270.30 Min assay 97%	IR3250	500g	•
	R: 22-34 S: 26-37/39 CAS: 10025-77-1 UN: 8/3260 EINECS: 2317294			







Hazard	Chemical	Cat. No.	Qty.	Price
	Iron (III) nitrate 9 - water LR Fe(NO ₃) ₃ ·9H ₂ O = 404.00 Min assay (oxidimetric) 98%	IR3260	250g	•
	R: 8-36/38 S: 26-28 CAS: 10421-48-4 UN: 5.1/1466 EINECS: 2338995			
	Iron (III) oxide, calcined LR Fe ₂ O ₃ = 159.69 Min assay 95%	IR3266	500g	•
	CAS: 1309-37-1 EINECS: 2151682			
	Iron (III) sulphate T	IR3270	500g	•
	R: 36/37 S: 26 CAS: 10028-22-5 EINECS: 2330729			
	Janus green stain	JA3288 JA3290	1g 5g	• •
	CAS: 2869-83-2 EINECS: 2206956			
	Janus green, alcoholic solution	JA3294	100ml	•
	R: 10 S: 16-24/25 UN: 3.3/1170			
	Kaolin light	KA3320	1Kg	•
	<200 mesh 98% min CAS: 1332-58-7 EINECS: 2694738			
	Lactic acid LR Min assay (after hydrolysis of anhydrides) 88% Wt per ml at 20°C about 1.21g	LA3350	500ml	•
	R: 38-41 S: 26-39 CAS: 598-82-3 UN: 8/1760 EINECS: 2099544			
	Lactophenol for microscopy	LA3354	100ml	•
	R: 23/24/25-35 S: 2-28-44 CAS: 55068-66-1 UN: 6.1/2810			
	Lactose LR C ₁₂ H ₂₂ O ₁₁ ·H ₂ O = 360.31	LA3360 LA3362	100g 500g	• •
	CAS: 63-42-3 EINECS: 2005592			
	di -Lauroyl peroxide (di [dodecanoyl] peroxide) [CH ₃ ·(CH ₂) ₁₀ ·CO] ₂ O ₂ = 398.63	LA3376 LA3378	25g 100g	• •
	R: 7 S: 3/7-14-36/37/39 CAS: 105-74-8 UN: 5.2/3106 EINECS: 2033263			
	Lead foil LR Pb = 207.20	LE3382	500g	•
	Lead, powder Pb = 207.20	LE3390	250g	•
	Lead, shot 3mm diameter	LE3394	500g	•
	R: 61-62-20/22-33 S: 53-37-45 CAS: 7439-92-1 EINECS: 2311004			












Hazard	Chemical	Cat. No.	Qty.	Price
	Lead (II) acetate 3 - water LR (CH ₃ COO) ₂ Pb·3H ₂ O = 379.33	LE3402	500g	•
	R: 61-33-40-48/22-50/53-62 S: 53-45-60-61 CAS: 6080-56-4 UN: 6.1/1616 EINECS: 2061044			
	Lead (II) bromide LR PbBr ₂ = 367.01 Min assay (ex Br) 98%	LE3406	100g	•
	R: 61-20/22-33-50/53-62 S: 53-45-60-61 CAS: 10031-22-8 UN: 6.1/2291 EINECS: 2330844			
	Lead (II) carbonate basic approx: 2PbCO ₃ ·Pb(OH) ₂	LE3418	500g	•
	R: 61-20/22-33-50/53-62 S: 53-45-60-61 CAS: 1319-46-6 UN: 6.1/2291 EINECS: 2152906			
	Lead (II) chloride LR PbCl ₂ = 278.11 Min assay (ex Cl) 99%	LE3420	100g	•
	R: 61-20/22-33-50/53-62 S: 53-45-60-61 CAS: 7758-95-4 UN: 6.1/3288 EINECS: 2318455			
	Lead (II) iodide, powder approximately PbI ₂	LE3428	100g	•
	R: 61-20/22-33-50/53-62 S: 53-45-60-61 CAS: 10101-63-0 UN: 6.1/3288 EINECS: 2332569			
	Lead (II) nitrate LR Pb(NO ₃) ₂ = 331.21 Min assay 99%	LE3436	500g	•
	Lead (II) nitrate AR Pb(NO ₃) ₂ = 331.21 Min assay 99.5% pH (5% solution) 3.0-5.0	LE3441	250g	•
	R: 61-20/22-33-50/53-62 S: 53-45-60-61 CAS: 10099-74-8 UN: 5.1/1469 EINECS: 2332459			
	Lead (II) oxide (litharge) LR PbO = 223.20 Min assay (ex Pb) 98%	LE3448	500g	•
	R: 61-20/22-33-50/53-62 S: 53-45-60-61 CAS: 1317-36-8 UN: 6.1/2291 EINECS: 2152670			
	Lead (IV) oxide LR (lead dioxide) PbO ₂ = 239.20 Min assay (oxidimetric) 94%	LE3452	100g	•
	R: 61-20/22-33-50/53-62 S: 53-45-60-61 CAS: 1309-60-0 UN: 5.1/1872 EINECS: 2151745			
	Lead (II) - lead (IV) oxide LR (lead oxide) (min. red lead) Pb ₃ O ₄ = 685.60 Min assay 85%	LE3458	500g	•
	R: 61-20/22-33-62-50/53-62 S: 53-45-60-61 CAS: 1314-41-6 UN: 6.1/3288 EINECS: 2152356			

Hazard	Chemical	Cat. No.	Qty.	Price
	Lead (II) sulphate LR (lead sulphate) PbSO ₄ = 303.26 Min assay (ex Pb) 98.5%	LE3464	100g	•
	R: 61-20/22-33-50/53-62 S: 53-45-60-61 CAS: 7446-14-2 UN: 6.1/3288 EINECS: 2311989			
	Lead (II) sulphide LR PbS = 239.26	LE3470	100g	•
	R: 61-20/22-33-50/53-62 S: 53-45-60-61 CAS: 1314-87-0 UN: 6.1/3288 EINECS: 2152466			
	Leishman's stain	LE3478	5g	•
	CAS: 12627-53-1			
	Leishman's staining solution	LE3482	100ml	•
10°C		LE3484	500ml	•
	R: 11-23/24/25-39/23/24/25 S: 7-16-36/37-45 UN: 3.2/1230			
	DL - Leucine C ₆ H ₁₃ NO ₂ = 131.17 Min assay (NAT) 99%	LE3488	5g	•
	CAS: 328-39-2 EINECS: 2063282			
	L - Leucine (CH ₃) ₂ CH.CH ₂ .CH(NH ₂).COOH = 131.17 Min assay (NAT) 99%	LE3490	25g	•
	CAS: 61-90-5 EINECS: 2005220			
	Lime water (Calcium hydroxide solution)	LI3508	2.5Lt	•
	Limonene (dipentene) C ₁₀ H ₁₆ = 136.24 Boiling range 165-190°C Weight per ml. 0.86g approx.	LI3510	250ml	•
	R: 10-38-43-50/53 S: 24-27-60-61 CAS: 138-86-3 UN: 3.3/2052 EINECS: 2278135			
	Lipase (Steapsin)	LI3512	10g	•
	CAS: 9001-62-1 EINECS: 2326199	LI3514	25g	•
	Lithium metal (in liquid paraffin) Li = 6.94	LI3518	10g	•
		LI3520	25g	•
	R: 14/15-34 S: 8-43-45 CAS: 7439-93-2 UN: 4.3/1415 EINECS: 2311025			
	Lithium carbonate LR Li ₂ CO ₃ = 73.89 Min assay 99%	LI3524	100g	•
	R: 22 S: 22-24/25 CAS: 554-13-2 EINECS: 2090625			









Hazard	Chemical	Cat. No.	Qty.	Price
	Lithium chloride anhydrous LR LiCl = 42.39 Min assay (on dried material) 99%	LI3532	100g	•
	R: 22-36/38 S: 26-28-22 CAS: 7447-41-8 EINECS: 2312123			
	Lithium hydroxide LR LiOH.H ₂ O = 41.96 Min assay 99%	LI3538	100g	•
	R: 35 S: 26-36/37/39-45 CAS: 1310-66-3 UN: 8/2680 EINECS: 2151834			
	Lithium nitrate LR LiNO ₃ .3H ₂ O = 122.99 Min assay (ion exchange) 98.0%	LI3542	100g	•
	R: 8 S: 24/25 CAS: 7790-69-4 UN: 5.1/2722 EINECS: 2322189			
	Litmus (Granulated) pH 5.0-8.0 red to blue	LI3558	25g	•
	CAS: 1393-92-6			
	Litmus (pH indicator) 1% solution pH 5.0-8.0 red to blue	LI3562	100ml	•
		LI3564	500ml	•
	Lugol's iodine solution	LU3570	100ml	•
	CAS: 12298-68-9			
	Luminol (3 - aminophthalhydrazide) NH ₂ .C ₆ H ₃ .CO.NH.NH.CO = 177.16	LU3576	1g	•
	CAS: 521-31-3 EINECS: 2083094			
	Lycopodium R: 11 S: 16 CAS: 8023-70-9 UN: 4.1/1325 EINECS: 2820023	LY3582	50g	•
	L - Lysine monohydrochloride NH ₂ .(CH ₂) ₄ .CH(NH ₂).COOH.HCl = 182.65 Min assay (exN) 99% (ex Cl) 99%	LY3588	25g	•
	CAS: 657-27-2 EINECS: 2115199			
	Magnesium powder Mg = 24.31	MA3610	100g	•
		MA3612	500g	•
	R: 11-15 S: 7/8-43 CAS: 7439-95-4 UN: 4.3/1418 EINECS: 2311046			
	Magnesium ribbon (Standard Grade) Mg = 24.31	MA3614	25g	•
	Magnesium ribbon LR Mg = 24.31 Min assay (Mg) 99.8%	MA3616	25g	•
	Magnesium turnings LR Mg = 24.31 Min assay (Mg) 99.7%	MA3620	100g	•
		MA3622	250g	•
	R: 11-15 S: 7/8-43 UN: 4.1/1869 EINECS: 2311046			















Hazard	Chemical	Cat. No.	Qty.	Price
	Magnesium carbonate basic , heavy LR Approx $3\text{MgCO}_3 \cdot \text{MgCO}_3 \cdot \text{Mg(OH)}_2 \cdot 3\text{H}_2\text{O}$	MA3630	500g	•
	Magnesium carbonate basic , light LR Approx $3\text{MgCO}_3 \cdot \text{Mg(OH)}_2 \cdot 3\text{H}_2\text{O}$	MA3634	500g	•
	CAS: 12125-28-9 EINECS: 2351927			
	Magnesium chloride 6 - water LR $\text{MgCl}_2 \cdot 6\text{H}_2\text{O} = 203.30$ Min assay (ex Cl) 97%	MA3638	500g	•
	CAS: 7791-18-6 EINECS: 2320946			
	Magnesium hydroxide LR $\text{Mg(OH)}_2 = 58.32$ Min assay (complexometric) 95%	MA3644	250g	•
	CAS: 1309-42-8 EINECS: 2151703			
	Magnesium nitrate LR $\text{Mg(NO}_3)_2 \cdot 6\text{H}_2\text{O} = 256.41$ Min assay 99%	MA3648 MA3650	250g 500g	• •
	R: 8 S: 24/25 CAS: 10377-60-3 UN: 5.1/1474 EINECS: 2338267			
	Magnesium oxide heavy LR $\text{MgO} = 40.30$	MA3654	250g	•
	Magnesium oxide light LR $\text{MgO} = 40.30$	MA3660	500g	•
	CAS: 1309-48-4 EINECS: 2151719			
	Magnesium stearate LR (magnesium octadecanoate) approx $(\text{C}_{17}\text{H}_{35}\text{COO})_2\text{Mg}$ Assay (as Mg on dried) 3.8-5.0%	MA3666	250g	•
	CAS: 557-04-0 EINECS: 2091503			
	Magnesium sulphate 7 - water LR $\text{MgSO}_4 \cdot 7\text{H}_2\text{O} = 246.47$ Min assay (ex Mg) 99%	MA3670	1Kg	•
	Magnesium sulphate 7 - water AR $\text{MgSO}_4 \cdot 7\text{H}_2\text{O} = 246.47$ Min assay 99.5% pH (5% solution) 5.0-8.0	MA3675	500g	•
	CAS: 10034-99-8 EINECS: 2312998			
	Magnesium sulphate dried LR $\text{MgSO}_4 + \text{H}_2\text{O}$ Assay (MgSO_4) 62.0-70.0%	MA3680	500g	•
	CAS: 7487-88-9 EINECS: 2312998			
	Magneson (4-(4 - nitrophenylazo) resorcinol) $\text{NO}_2 \cdot \text{C}_6\text{H}_4\text{N} \cdot \text{N} \cdot \text{C}_6\text{H}_3(\text{OH})_2 = 259.22$	MA3684	10g	•
	R: 20/22 S: 24/25 CAS: 74-39-5 EINECS: 2008085			
	Malachite green stain	MA3692	5g	•
	R: 22-36 S: 26-28 CAS: 2437-29-8 EINECS: 2419225			

Hazard	Chemical	Cat. No.	Qty.	Price
	Maleic acid LR (cis - butanedioic acid) $\text{CH}(\text{COOH})\text{:CH.COOH} = 116.07$ Assay (acidimetric) 99.5-100.5%	MA3704	100g	•
	R: 22-36/37/38 S: 26-28-37 CAS: 110-16-7 UN: 8/3261 EINECS: 2037425			
	DL - Malic acid LR (DL - 2 - hydroxybutanedioic acid) $\text{CH}_2(\text{COOH})\text{:CH(OH).COOH} = 134.09$ Min assay 99%	MA3710	100g	•
	CAS: 617-48-1 EINECS: 2105149			
	Malonic acid LR (propanedioic acid) $\text{CH}_2(\text{COOH})_2 = 104.06$ Min assay (acidimetric) 99%	MA3716	25g	•
	R: 36/38 S: 26-28 CAS: 141-82-2 EINECS: 2055030			
	Maltose LR $\text{C}_{12}\text{H}_{22}\text{O}_{11} \cdot \text{H}_2\text{O} = 360.31$	MA3718 MA3720	25g 100g	• •
	CAS: 69-79-4 EINECS: 2007165			
	Manganese electrolytic LR Mn = 54.94 Min assay 99.0%	MA3724	100g	•
	CAS: 7439-96-5 EINECS: 2311051			
	Manganese (II) carbonate LR (manganous carbonate) $\text{MnCO}_3 = 114.95$ Manganese (Mn) 42-46%	MA3728	250g	•
	CAS: 598-62-9 EINECS: 2099429			
	Manganese (II) chloride 4 - water LR $\text{MnCl}_2 \cdot 4\text{H}_2\text{O} = 197.90$ Min assay (ex Mn) 97%	MA3736	250g	•
	R: 22 CAS: 13446-34-9 EINECS: 2318696			
	Manganese (II) sulphate I - water LR $\text{MnSO}_4 \cdot \text{H}_2\text{O} = 169.01$ Minimum assay (ex Mn) 98%	MA3744	500g	•
	R: 48/20/22-51/53 S: 22-61 CAS: 7785-87-7 UN: 9/3077 EINECS: 2320899			
	Manganese (IV) oxide, suitable for oxygen preparation Min assay (iodometric) 85% MnO_2	MA3752 MA3754	100g 500g	• •
	R: 20/22 S: 25 CAS: 1313-13-9 UN: 5.1/1479 EINECS: 2152026			
	Manganese (IV) oxide powder	MA3756	500g	•
	R: 20/22 S: 25 CAS: 1313-13-9 UN: 5.1/1479 EINECS: 2152026			
	Manganous salts, see Manganese (II) salts			
	Mannitol LR $\text{CH}_2(\text{OH})\text{:CH(OH)}_4\text{:CH}_2\text{OH} = 182.17$	MA3762 MA3764	100g 500g	• •
	CAS: 69-65-8 EINECS: 2017702			













Hazard	Chemical	Cat. No.	Qty.	Price
	D(+) Mannose $O_2(C_2H_4O)_4 \cdot CH_2OH = 180.16$ CAS: 3458-28-4 EINECS: 2223924	MA3768	5g	•
	Marble chips (Calcium carbonate ore) approx. 9-12mm	MA3772 MA3774	1Kg 3Kg	• •
	Marble chips medium approx. 6-9mm	MA3772/M MA3774/M	1Kg 3Kg	• •
	Marble chips small approx. 2-4mm	MA3772/S MA3774/S	1Kg 3Kg	• •
	CAS: 471-34-1 EINECS: 2074399			
	Menthol LR $(CH_3)_2CH \cdot CH_2 \cdot CH_2 \cdot CH(CH_3) \cdot CH_2 \cdot CH_2OH = 156.27$ Min assay (GLC) 99%	ME3784	25g	•
	R: 36 CAS: 2216-51-5 EINECS: 2186909			
	Mercuric salts, see Mercury (II) salts			
	Mercurous salts, see Mercury (I) salts			
	Mercury LR Hg = 200.59	ME3792	500g	•
	R: 23-33-50/53 S: 7-45-60-61 CAS: 7439-97-6 UN: 8/2809 EINECS: 2311067			
	Mercury (II) chloride LR (mercuric chloride) HgCl ₂ = 271.50 Min assay (ex Hg) 98%	ME3822	100g	•
	R: 28-34-48/24/25-50/53 S: 36/37/39-45-60-61 CAS: 7487-94-7 UN: 6.1/1624 EINECS: 2312998			
	Mercury (II) oxide, red LR HgO = 216.59 Min assay (ex Hg) 99%	ME3838	25g	•
	R: 26/27/28-33-50/53 S: 13-28-45-60-61 CAS: 21908-53-2 UN: 6.1/1641 EINECS: 2446547			
	Methanol LR (methyl alcohol) CH ₃ OH = 32.04 Min assay (GLC) 99.5% Wt per ml at 20°C 0.790-0.793g	ME3860 ME3862 ME3864	500ml 2.5Lt 4 x 5Lt	• • •
	R: 11-23/24/25-39/23/24/25 S: 7-16-36/37-45 CAS: 67-56-1 UN: 3.2/1230 EINECS: 2006596			
	DL - Methionine $CH_3 \cdot S \cdot (CH_2)_2 \cdot CH(NH_2) \cdot COOH = 149.21$ Min assay (exNH ₂) 99%	ME3872	25g	•
	CAS: 59-51-8 EINECS: 2004321			
	Methyl acetate LR (methyl ethanoate) CH ₃ COOCH ₃ = 74.08 Min assay (GLC) 98% Wt per ml at 20°C 0.931-0.933g	ME3876	500ml	•
	R: 11-36-66-67 S: 16-23-29-33 CAS: 79-20-9 UN: 3.2/1231 EINECS: 2011852			






Hazard	Chemical	Cat. No.	Qty.	Price
	Methylamine solution 25/30% w/v in water CH ₃ NH ₂ Wt per ml at 20°C about 0.93g	ME3878	500ml	•
	R: 12-20/22-34 S: 3-16-26-29-36/37/39-45 UN: 2.1/1061 EINECS: 2008200			
	Methylammonium chloride LR CH ₃ NH ₂ ·HCl = 67.52 Min assay (ex Cl) 97% pH of 10% solution 4.5-6.5 CAS: 593-51-1 EINECS: 2097950	ME3882	100g	•
	Methylated spirit, industrial, 98/99% w/w total alcohols, 740P Wt per ml at 20°C 0.790-0.792g Denatured with not more than 4% methanol	ME3886 ME3887	2.5Lt 5Lt	• •
	Can only be supplied against Excise requisition	ME38874	4 x 5Lt	•
	Methylated spirit, mineralised (Blue) R: 11-20/22 S: 7-16-24-25 CAS: 64-17-5 UN: 3.2/1170	ME3892 ME38934	2.5Lt 4 x 5Lt	• •
	Methyl benzene, see Toluene			
	Methyl benzoate LR C ₆ H ₅ COOCH ₃ = 136.15 Min assay (GLC) 99% Wt per ml at 20°C 1.085-1.087g	ME3898 ME3900	100ml 500ml	• •
	R: 22 S: 23-24/25 CAS: 93-58-3 UN: 6.1/2938 EINECS: 2022597			
	Methyl blue stain CAS: 28983-56-4 EINECS: 2493529	ME3902 ME3904	5g 25g	• •
	Methylene blue stain R: 22 CAS: 61-73-4 EINECS: 2005152	ME3912 ME3914	5g 25g	• •
	Methylene blue 1% aqueous solution ME3920 100ml •			
	Methyl formate, LR (methyl methanoate) H.COO.CH ₃ = 60.05 Min assay (GLC) 97% Wt per ml at 20°C 0.966-0.969g Boiling range (95%) 31-36°C	ME3946	500ml	•
	R: 12-20/22-36/37 S: 9-16-24-26-33 CAS: 107-31-3 UN: 3.1/1243 EINECS: 2034817			
	Methyl 4 - hydroxybenzoate LR C ₆ H ₄ (OH).COOCH ₃ = 152.15 Min assay 99% CAS: 99-76-3	ME3968	50g	•
	Methyl methacrylate LR (monomer) (methyl - 2 - methylpropenoate) CH ₂ :C(CH ₃).COOCH ₃ = 100.12 Min assay 99.5% Wt per ml at 20°C 0.941-0.943g	ME3970	500ml	•
	R: 11-37/38-43 S: 24-37-46 CAS: 80-62-6 UN: 3.2/1247 EINECS: 2012971			

Hazard	Chemical	Cat. No.	Qty.	Price
	Methyl orange, (pH indicator) (CH ₃) ₂ N.C ₆ H ₄ .N:N.C ₆ H ₄ .SO ₃ Na = 327.33 pH range 2.9-4.6	ME3974 ME3976	5g 25g	• •
	R: 25 S: 37-45 CAS: 547-58-0 UN: 6.1/2811 EINECS: 2089253			
	Methyl orange, 0.04% indicator solution	ME3980 ME3982	100ml 500ml	• •
	R: 10 S: 16-24/25 UN: 3.3/1170			
	Methyl orange- xylene cyanol (screened methyl orange) pH 2.9-4.6 violet to green	ME3986	5g	•
	R: 25 S: 37-45 UN: 6-1/2811			
	Methyl orange- xylene cyanol 0.36% solution	ME3990 ME3992	100ml 500ml	• •
37°C	R: 10 S: 16-24/25 UN: 3.3/1170			
	Methyl P - hydroxy benzoate, see Nipagin			
	2 - Methylpropan - 1 - ol LR (iso- butyl alcohol) (CH ₃) ₂ CH.CH ₂ OH = 74.12	ME4000	500ml	•
	Min assay (GLC) 99% Wt per ml at 20°C 0.801-0.804g Boiling range (95%) 105-109°C			
	R: 10-37/38-41-67 S: 7/9-13-26-37/39-46 CAS: 78-83-1 UN: 3.3/1212 EINECS: 2011480			
	2 - Methylpropan - 2 - ol LR (tert - butyl alcohol) (CH ₃) ₃ COH = 74.12	ME4004	500ml	•
10°C	Min assay (GLC) 98% Wt per ml at 30°C about 0.78g			
	R: 11-20 S: 9-16 CAS: 75-65-0 UN: 3.2/1120 EINECS: 2008897			
	Methyl red, (pH indicator) (CH ₃) ₂ N.C ₆ H ₄ .N:N.C ₆ H ₄ .COOH = 269.30	ME4010	5g	•
	Min assay 95% pH range 4.2-6.3			
	CAS: 493-52-7 EINECS: 2077761			
	Methyl red, 0.01% indicator solution aqueous	ME4016 ME4018	100ml 500ml	• •
	Methyl salicylate LR C ₆ H ₄ (OH).COO.CH ₃ = 152.15	ME4019 ME4020	100ml 500ml	• •
	Min assay (GLC) 99% Wt per ml at 20°C 1.180-1.184g			
	R: 22-36/38 S: 26 CAS: 119-36-8 UN: 9/3082 EINECS: 2043177			
	Methylurea CH ₃ .NH.CO.NH ₂ = 74.08	ME4024	25g	•
	Min assay (ex N) 97%			
	R: 22 CAS: 598-50-5 EINECS: 2099350			
	Methyl violet, (pH indicator) - see Crystal violet			

Hazard	Chemical	Cat. No.	Qty.	Price
	Mineral Wool, see Ceramic Fibre			
	Murexide (ammonium purpurate) C ₈ H ₄ N ₂ O ₆ .NH ₄ = 284.19	MU4140	5g	•
	CAS: 3051-09-0 EINECS: 2212666			
	Naphthalene LR C ₁₀ H ₈ = 128.17	NA4170	500g	•
	Min assay (GLC) 99%			
	R: 50/53 S: 36/37-60-61 CAS: 91-20-3 UN: 4.1/1334 EINECS: 2020495			
	1 - Naphthol LR (naphthalen - 1 - ol) CH ₁₀ H ₇ .OH = 144.17	NA4174	25g	•
	R: 21/22-37/38-41 S: 22-26-36/37/39 CAS: 90-15-3 UN: 6.1/2811 EINECS: 2019694			
	2 - Naphthol LR (naphthalen - 2 - ol) CH ₁₀ H ₇ .OH = 144.17	NA4180	100g	•
	R: 20/22-50 S: 24/25-61 CAS: 135-19-3 UN: 6.1/2811 EINECS: 2051827			
	Nessler's reagent For detection of ammonia	NE4188	500ml	•
	R: 25.35 48/21/22. 51/53 S: 26. 36/37/39. 45.61 CAS: 7783.33.7 UN: 6.1/2922 EINECS: 2319904			
	Neutral red, (pH indicator) pH 6.8-8.0 red to orange	NE4194	5g	•
	CAS: 553-24-2 EINECS: 2090358			
	Nickel foil, 0.15mm LR Ni = 58.69	NI4206	100g	•
	Min assay 99.9%			
	R: 40-43 S: 22-36 CAS: 7440-02-0 EINECS: 2311114			
	Nickel (II) acetate 4 - water LR (CH ₃ COO) ₂ Ni.4H ₂ O = 248.84	NI4218	100g	•
	Min assay (ex Ni) 98%			
	R: 49-43 S: 53 36/37/39-45 CAS: 373-02-4 EINECS: 2067617			
	Nickel (II) carbonate, basic approximately NiCO ₃ .2Ni(OH) ₂ .4H ₂ O	NI4222	100g	•
	R: 22-40-43-50/53 S: 22-36/37-60-61 CAS: 12607-70-4 UN: 9/3077 EINECS: 2357159			
	Nickel (II) chloride 6 - water LR NiCl ₂ .6H ₂ O = 237.69	NI4226	250g	•
	Min assay (ex Ni) 97%			
	R: 49-25-43 S: 53-36/37/39-45 CAS: 7791-20-0 UN: 9/3077 EINECS: 2317430			

Hazard	Chemical	Cat. No.	Qty.	Price
	Nickel (II) nitrate 6 - water LR Ni(NO ₃) ₂ ·6H ₂ O = 290.79 Min assay (ex Ni) 98%	NI4228 NI4230	100g 250g	• •
	R: 8-22-43 S: 24-37 CAS: 13478-00-7 UN: 5.1/2725 EINECS: 2360685			
	Nickel (II) oxide, black T NiO = 74.69	NI4236	100g	•
	R: 49-43-53 S: 53-45-61 CAS: 1313-99-1 UN: 9/3077 EINECS: 2151257			
	Nickel (II) sulphate LR NiSO ₄ ·6/7H ₂ O Nickel (Ni) 20.8-22.4%	NI4240	250g	•
	R: 22-40-42/43-50/53 S: 22-36/37-60-61 CAS: 7786-81-4 UN: 9/3077 EINECS: 2321049			
	Nigrosine, (water soluble) stain	NI4246	5g	•
	CAS: 8005-03-6			
	Ninhydrin (indanetrione hydrate) C ₉ H ₄ CO ₂ CO ₂ CO ₂ H ₂ O = 178.14 Min assay 95%	NI4264	5g	•
	R: 22-36/37/38 S: 26-36 CAS: 485-47-2 EINECS: 2076181			
	Ninhydrin, spray, 0.5% solution of ninhydrin in butan - 1 - ol	NI4270	Each	•
	29°C R: 10-18-20 S: 16 UN: 2.1/1950			
	Nipagin, (methyl-p-hydroxy benzoate)	NI4274	100g	•
	EINECS: 2317142			
	Nipagin, 10% alcoholic solution	NI4278	100ml	•
	R: 10 S: 16-24/25 UN: 3.3/1170			
	Nitric acid LR HNO ₃ = 63.01 Assay 69 % Wt per ml at 20°C 1.41-1.42g	NI4280 NI4282 NI42824 NI4284	1Lt 2.5Lt 4x2.5Lt 2.5Lt*	• • • •
	Nitric acid AR HNO ₃ = 63.01 sp. gr. 1.42 Assay (HNO ₃) 69 % *supplied in glass Safecoat bottle	NI4287	2.5Lt	•
	R: 35 S: 23-26-36-45 CAS: 7697-37-2 UN: 8/2031 EINECS: 2317142			
	Nitric acid 2.0M Std. solution	NI4292	2.5Lt	•
	Nitric acid 1.0M Std. solution	NI4296	2.5Lt	•
	Nitric acid 0.1M Std. solution	NI4300	2.5Lt	•
	Nitric acid 0.1M CVS to make 1Lt	NI4306	Pk of 6	•
	R: 34 S: 23-26-36-45 UN: 8/2031			

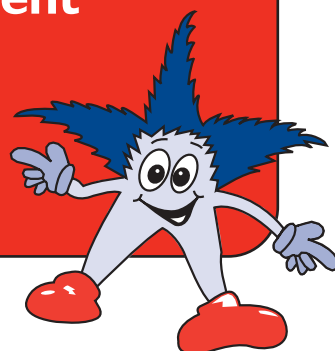
Hazard	Chemical	Cat. No.	Qty.	Price
	Nitrobenzene LR C ₆ H ₅ .NO ₂ = 123.11 Min assay (GLC) 98% Wt per ml at 20°C 1.200-1.204g	NI4308	500ml	•
	R: 23/24/25-40-48/23/24-51/53-62 S: 28-36/37-45-61 CAS: 98-95-3 UN: 6.1/1662 EINECS: 2027160			
	2 - Nitrophenol LR NO ₂ .C ₆ H ₄ .OH = 139.11 Min assay (acidimetric) 99%	NI4312	100g	•
	R: 20/21/22-33 S: 28 CAS: 88-75-5 UN: 6.1/1663 EINECS: 2018575			
	4 - Nitrotoluene LR (4 - methylnitrobenzene) CH ₃ .C ₆ H ₄ .NO ₂ = 137.14 Min assay (ex N) 98%	NI4320	25g	•
	R: 23/24/25-33-51/53 S: 28-37-45-61 CAS: 99-99-0 UN: 6.1/1664 EINECS: 2028080			
	Nutrient, Agar see Page 218			
	Octadecanoic acid, see Stearic acid			
	n - Octane LR CH ₃ .(CH ₂) ₆ .CH ₃ = 114.23 Min assay (GLC) 99% Wt per ml at 20°C 0.701-0.702g Boiling range (95%) 123-126°C	OC4350	100ml	•
				
	R: 11-38-50/53-65-67 S: 9-16-29-33-60-61-62 CAS: 111-65-9 UN: 3.2/1262 EINECS: 2038921			
	Octan - 1 - ol LR (n - octyl alcohol) CH ₃ .(CH ₂) ₆ .CH ₂ OH = 130.23 Wt per ml at 20°C 0.822-0.825g Boiling range (95%) 192-200°C	OC4358	500ml	•
	R: 22-36/38 S: 26-36 CAS: 111-87-5 UN: 9/3082 EINECS: 2039176			
	Octan - 2 - ol LR CH ₃ .(CH ₂) ₅ .CH(OH).CH ₃ = 130.23 Min assay (GLC) 97% Wt per ml at 20°C 0.819-0.821g	OC4362	500ml	•
	R: 36/37/38 S: 26-36 CAS: 123-96-6 UN: 9/3082 EINECS: 2046670			
	Oct - 1 - ene LR CH ₂ .CH.(CH ₂) ₅ .CH ₃ = 112.21 Assay 97% Boiling range 122-123°C Weight per ml 0.715	OC4364	100ml	•
				
	R: 11.65 S: 16.33.62 CAS: 111-66-0 UN: 3-2/3295 EINECS: 2038937			
	Oil of castor Wt per ml at 20°C about 0.96g	OI4366	500ml	•
	CAS: 8001-79-4 EINECS: 2322938			
	Oil of cedarwood (thickened for oil immersion) Wt per ml at 20°C about 0.97g	OI4372	25ml	•
	CAS: 8000-27-9			














Hazard	Chemical	Cat. No.	Qty.	Price
	Oil of cloves Wt per ml at 20°C 1.041-1.054g CAS: 8000-34-8	OI4374	100ml	•
	Oil, crude - substitute (C.L.E.A.P.S.E. new formulation) R: 11-20/21 S: 9-16-29-33 UN: 3.1/1993 -34°C	OI4378	500ml	•
	Oil, immersion (Microil) Refractive index about 1.521	OI4384	25ml	•
	Oil of linseed Wt per ml at 20°C about 0.93g CAS: 8001-26-1 EINECS: 2322786	OI4390	500ml	•
	Oil of olive Wt per ml at 20°C about 0.91g CAS: 8001-25-0	OI4394	500ml	•
	Oil, paraffin (kerosine, white) R: 65 S: 23-24-43-62 EINECS: 2323664 UN: 3-3/1223	OI4398	2.5Lt	•
	Oil of turpentine (rectified) Wt per ml at 20°C 0.855-0.868g R: 10-20/21/22-36/38-43-51/53-65 S: 36/37-46-61-62 CAS: 8006-64-2 UN: 3.3/1299 EINECS: 2323507	OI4400	500ml	•
				
	Oil, vegetable	OI4406 OI4408	500ml 2.5Lt	• •
	Oleic acid 92%, (octadec - 9 - enoic acid) $C_{17}H_{33}COOH = 282.47$ Min assay (GLC) 92% Wt per ml at 20°C 0.889-0.891g CAS: 112-80-1 EINECS: 2040071	OL4410	500ml	•
	Orcein, (synthetic) stain CAS: 1400-62-0 EINECS: 2157506	OR4426	5g	•
	Orcein, acetic solution (La Cour)	OR4430	100ml	•
	Orcein, propionic solution R: 34 S: 26-45 UN: 8/1760	OR4432	100ml	•
	Orthophosphoric acid, see Phosphoric (V) acid			
	Oxalic acid, see ethanedioic acid			
	Palmitic acid LR $CH_3(CH_2)_{14}COOH = 256.43$ Assay(ex total acidity) 99-101% CAS: 57-10-3 EINECS: 2003129	PA4446	100g	•











Hazard	Chemical	Cat. No.	Qty.	Price
	Pancreatin, from pig pancreas CAS: 8049-47-6 EINECS: 2324689	PA4448 PA4450	25g 100g	• •
	Paraffin liquid, light LR Wt per ml at 20°C 0.830-0.860g	PA4452 PA4454	500ml 2.5Lt	• •
	Paraffin wax, congealing point 46-48°C CAS: 8002-74-2 EINECS: 2323156	PA4470	500g	•
	Paraffin wax, congealing point 58-60°C	PA4476	500g	•
	n - Pentane, LR 75% min $CH_3(CH_2)_3CH_3 = 72.15$ -40°C	PE4492 PE4494	250ml 500ml	• •
				
	R: 12-51/53-65-66-67 S: 9-16-29-33-61-62 CAS: 109-66-0 UN: 3.1/1265 EINECS: 2036924			
	iso - Pentane, LR (2 - methylbutane) $(CH_3)_2CHCH_2CH_3 = 72.15$ Min assay (GLC) 95% Wt per ml at 20°C 0.618-0.621g -51°C	PE4498	250ml	•
				
	R: 12-51/53-65-66-67 S: 9-16-29-33-61-62 CAS: 78-78-4 UN: 3.1/1265 EINECS: 2011428			












**If you require a
chemical not listed
in this section.**









**Please contact our sales
department**














Hazard	Chemical	Cat. No.	Qty.	Price
	Pentan -1 - ol, LR (n - amyl alcohol) $\text{CH}_3(\text{CH}_2)_3\text{CH}_2\text{OH} = 88.15$ Min assay (GLC) 98% Wt per ml at 20°C 0.813-0.815g Boiling range 95% 133-139°C R: 10-20 S: 24/25 CAS: 71-41-0 UN: 3.3/1105 EINECS: 2007521	PE4502	500ml	•
	Pepsin, powder R: 36/37/38-42 S: 22-24-26-36/37 CAS: 9001-75-6 EINECS: 2326293	PE4506 PE4508	25g 100g	• •
	Peptone, bacteriological	PE4512	100g	•
	Petroleum jelly, soft white CAS: 64771-71-7 EINECS: 2323732	PE4524	500g	•
	Petroleum spirit, LR 40-60°C Wt per ml at 20°C about 0.64g	PE4528 PE4530	500ml 2.5Lt	• •
-40°C				
	Petroleum spirit, LR 60-80°C Wt per ml at 20°C about 0.67g	PE4532 PE4534	500ml 2.5Lt	• •
	R: 11-52/53-65 S: 9-16-23-24-33-61-62 CAS: 8032-32-4 UN: 3.2/1268 EINECS: 2324537			
	Petroleum spirit, LR 80-100°C Wt per ml at 20°C about 0.69g	PE4536 PE4538	500ml 2.5Lt	• •
-10°C				
	Petroleum spirit, LR 100-120°C Wt per ml at 20°C about 0.72g	PE4540 PE4542	500ml 2.5Lt	• •
	R: 11-51/53-65 S: 9-16-23-24-33-61-62 CAS: 8032-32-4 UN: 3.2/1268 EINECS: 2324537			
	I-10, Phenanthroline hydrate LR $\text{C}_{12}\text{H}_8\text{N}_2\cdot\text{H}_2\text{O} = 198.22$ Min. assay 99%	PH4546	5g	•
	R: 25-50/53 S: 45-60-61 CAS: 5144-89-8 UN: 6.1/2811 EINECS: 2006292			
	I-10, Phenanthroline hydrate solution indicator (Ferroin Solution)	PH4548	100ml	•
	R: 25 S: 24/25 EINECS: 2386766 UN: 6.1/2810			
	Phenol, crystals LR $\text{C}_6\text{H}_5\text{OH} = 94.11$	PH4550	250g	•
	R: 24/25-34 S: 28-45 CAS: 108-95-2 UN: 6.1/1671 EINECS: 2036327			
	Phenolphthalein, (pH indicator) pH 8.3-10.0 colourless to violet-red	PH4566	25g	•
	CAS: 77-09-8 EINECS: 2010047			
	Phenolphthalein, solution	PH4572 PH4574	100ml 500ml	• •
12°C	R: 11 S: 7-16 UN: 3.2/1170			









Hazard	Chemical	Cat. No.	Qty.	Price
	Phenol red (pH indicator) pH 6.8-8.4 yellow to red	PH4578	5g	•
	CAS: 143-74-8 EINECS: 2056097			
	Phenol red 0.02% indicator solution	PH4582	100ml	•
	R: 10			
	Phenylamine, see Aniline			
	Phenylethene monomer, see Styrene			
	Phenylhydrazine, LR $\text{C}_6\text{H}_5\text{NH.NH}_2 = 108.14$ Min assay (oxidimetric) 97.5% Wt per ml at 20°C 1.096-1.098g	PH4592	100ml	•
	R: 45-23/24/25-36/38-43-48/23/24/25-50 S: 53-45-61 CAS: 100-63-0 UN: 6.1/2572 EINECS: 612023009			
	Phenylhydrazinium chloride, LR (phenylhydrazine hydrochloride) $\text{C}_6\text{H}_5\text{NH.NH}_3\text{Cl} = 144.60$ Min assay (oxidimetric) 97%	PH4598	25g	•
	R: 45-23/24/25-36/38-43-48/23/24/25-50 S: 53-45-61 CAS: 59-88-1 UN: 6.1/2811 EINECS: 612023009			
	Phenyl salicylate, LR (phenyl - 2 - hydroxybenzoate) $\text{C}_6\text{H}_4(\text{OH}).\text{COO.C}_6\text{H}_5 = 214.22$ Min assay (saponification) 98%	PH4600 PH4602	100g 250g	• •
	CAS: 118-55-8 EINECS: 2042592			
	P.T.C. taste strips (phenylthiocarbamide phenylthiourea)	PH4606 PH4608	100 500	• •
	Phloroglucinol, LR (benzene - 1, 3, 5 - triol) $\text{C}_6\text{H}_3(\text{OH})_3\cdot 2\text{H}_2\text{O} = 162.14$	PH4612 PH4614	10g 25g	• •
	R: 20/22 S: 24/25 CAS: 108-73-6 EINECS: 2036112			
	Phloroglucinol solution 5% alcoholic	PH4620	100ml	•
11°C	R: 11-20/22 S: 7-16-24 UN: 3.2/1993			
	Phloroglucinol solution 5% acidulated	PH4626	100ml	•
	R: 11-20/22 S: 7-16-24			
	Phosphoric (V) acid, LR (orthophosphoric acid) $\text{H}_3\text{PO}_4 = 98.00$ Min assay 85% Wt per ml at 20°C about 1.7g	PH4632 PH4634	500ml 2.5Lt	• •
	R: 34 S: 26-45 CAS: 7664-38-2 UN: 8/1805 EINECS: 2316332			
	Phosphorus, red	PH4640	25g	•
	P = 30.97			
	R: 11-16-50 S: 7-43-61 CAS: 7723-14-0 UN: 4.1/1338 EINECS: 2317687			



Hazard	Chemical	Cat. No.	Qty.	Price
	Phosphorous (III) chloride, LR (phosphorous trichloride) PCl ₃ = 137.33 Min assay (acidimetric) 98.5% (argentometric) 98% Wt per ml at 20°C about 1.57g R: 14-26/28-35-48/20 S: 7/8-26-36/37/39-45 CAS: 7719-12-2 UN: 8/1809 EINECS: 2317493	PH4654	250ml	•
				
	Phosphorous (V) chloride, LR (phosphorous pentachloride) PCl ₅ = 208.24 Min assay (acidimetric) 98% (argentometric) 98% R: 14-22-26-34-48/20 S: 7/8-26-36/37/39-45 CAS: 10026-13-8 UN: 8/1806 EINECS: 2330603	PH4660	250g	•
	Phosphorous (V) oxide, LR (phosphorous pentoxide) P ₂ O ₅ = 141.94 Min assay (acidimetric) 98% R: 35 S: 22-26-45 CAS: 1314-56-3 UN: 8/1807 EINECS: 2152361	PH4664 PH4666	100g 250g	• •
	Phthalic acid, LR (benzene - 1, 2 - dicarboxylic acid) C ₆ H ₄ (COOH) ₂ = 166.13 Min assay (acidimetric) 99% R: 36/38 CAS: 88-99-3 EINECS: 2018732	PH4668	250g	•
	Phthalic anhydride, LR C ₈ H ₄ O ₃ = 148.12 Min assay (acidimetric) 99.5% R: 22-37/38-41-42/43 S: 23-24/25-26-37/39-46 CAS: 85-44-9 UN: 8/2214 EINECS: 2016075	PH4772	500g	•
	Platinum, wire 0.25mm Min assay 99.9% CAS: 7440-06-4 EINECS: 2311161	PL4792	15cm	•
	Polyvinyl alcohol (CH ₂ -CHOH) _n = approx. 17000	PO4800	250g	•
	Potassium, in liquid paraffin, (subject to availability) K = 39.10 R: 14/15-34 S: 5-8-43-45 CAS: 7440-09-7 UN: 4.3/2257 EINECS: 2311198	PO4808 PO4810	10g 25g	• •
				
	Potassium acetate, LR CH ₃ COOK = 98.14 Min assay 99% CAS: 127-08-2 EINECS: 2048222	PO4814	500g	•
	Potassium bromate (V), LR KBrO ₃ = 167.00 Assay (iodometric) 99.7-100.3% R: 45-9-25 S: 53-45 CAS: 7758-01-2 UN: 5.1/1484 EINECS: 2318298	PO4816 PO4818	100g 250g	• •
				
	Potassium bromide, LR KBr = 119.00 Min assay (ex Br) 98.5% R: 36 CAS: 7758-02-3 EINECS: 2318303	PO4824	500g	•






Hazard	Chemical	Cat. No.	Qty.	Price
	Potassium carbonate, 1 1/2 - water LR K ₂ CO ₃ · 1 1/2 H ₂ O = 165.23 Min assay (acidimetric) 99% R: 22-36/37/38 S: 9-26 CAS: 6381-79-9 EINECS: 2095293	PO4830	500g	•
	Potassium carbonate, anhydrous LR K ₂ CO ₃ = 138.21 Min assay (after drying) 99% R: 22-36/37/38 S: 9-26 CAS: 584-08-7 EINECS: 2095293	PO4834	500g	•
	Potassium chlorate (V), LR KClO ₃ = 122.55 Min assay (oxidimetric) 99% R: 9-20/22 S: 13-16-27 CAS: 3811-04-9 UN: 5.1/1485 EINECS: 2232897	PO4840	500g	•
				
	Potassium chloride, LR KCl = 74.55 Min assay 99% CAS: 7447-40-7 EINECS: 2312118	PO4852	500g	•
	Potassium chloride, AR KCl = 74.55 Min assay 99.5% pH (5% solution) 5.0-8.0 CAS: 7447-40-7 EINECS: 2312118	PO4855	500g	•
	Potassium chromate (VI), LR K ₂ CrO ₄ = 194.19 Min assay (oxidimetric) 99% R: 49-46-36/37/38-43-50/53 S: 53-45-60-61 CAS: 7789-00-6 UN: 6.1/3288 EINECS: 2321405	PO4858	250g	•
				
	tri-Potassium citrate LR HOC (COOK) (CH ₂ COOK) ₂ · H ₂ O = 324.41 Min assay 99% CAS: 6100-05-6 EINECS: 2127555	PO4862	500g	•
	Potassium dichromate (VI), LR K ₂ Cr ₂ O ₇ = 294.18 Min assay (iodometric) 99.5% R: 49-46-21-25-26-37/38-41-43-51/53 S: 53-45-60-61 CAS: 7778-50-9 UN: 6.1/3288 EINECS: 2319066	PO4868	500g	•
				
	Potassium dihydrogen phosphate (V), LR KH ₂ PO ₄ = 136.09 Assay (acidimetric) 99-101% CAS: 7778-77-0 EINECS: 2319134	PO4882	500g	•
	Potassium ferricyanide, LR (potassium hexacyanoferrate (III)) K ₃ Fe(CN) ₆ = 329.25 Min assay 99% R: 32 S: 22 24/25 CAS: 13746-66-2 EINECS: 2373233	PO4892	250g	•








Hazard	Chemical	Cat. No.	Qty.	Price
	Potassium ferrocyanide, LR (potassium hexacyanoferrate (II)) $K_4Fe(CN)_6 \cdot 3H_2O = 422.39$ Min assay 99% R: 32 S: 22-24/25 CAS: 13943-58-3 EINECS: 2377222	PO4900	250g	•
	Potassium hydrogen carbonate, LR (potassium bicarbonate) $KHCO_3 = 100.12$ Min assay 99% CAS: 298-14-6 EINECS: 2060590	PO4918	500g	•
	di-Potassium hydrogen phosphate (V), anhydrous LR $K_2HPO_4 = 174.18$ Assay 97.5-101% CAS: 7758-11-4 EINECS: 2318345	PO4928	500g	•
	Potassium hydrogen phthalate, LR $COOH.C_6H_4.COOK = 204.22$ Min assay (after drying) 99.5%	PO4930 PO4932	100g 500g	• •
	Potassium hydrogen phthalate, AR $COOH.C_6H_4.COOK = 204.22$ Assay (after drying) 99.9-100.1% CAS: 877-24-7 EINECS: 2128894	PO4933	100g	•
	Potassium hydrogen sulphate, LR $KHSO_4 = 136.16$ Min assay (ex acidity) 97% R: 34-37 S: 26-36/37/39-45 CAS: 7646-93-7 UN: 8/2509 EINECS: 2315941	PO4936	250g	•
	Potassium hydrogen (+) - tartrate, LR $COOH.CH(OH).CH(OH).COOK = 188.18$ Min assay 98% CAS: 868-14-4 EINECS: 2127691	PO4940	500g	•
	Potassium hydroxide, pellets LR $KOH = 56.11$ Min assay 85.0%	PO4948	500g	•
	Potassium hydroxide, pellets AR $KOH = 56.11$ Min assay 85.0% R: 22-35 S: 26-36/37/39-45 CAS: 1310-58-3 UN: 8/1813 EINECS: 2151813	PO4953	500g	•
	Potassium hydroxide, 0.1M (0.1N) standard solution R: 26/38 S: 26-36/37/39-45	PO4954	2.5Lt	•
	Potassium hydroxide, 1M (N) standard solution	PO4956	2.5Lt	•
	Potassium hydroxide, 0.1M (0.1N) C.V.S. To make 1Lt	PO4959	Pk of 6	•
	R: 22-35 S: 26-36/37/39-45 UN: 8/1814			









Hazard	Chemical	Cat. No.	Qty.	Price
	Potassium iodate (V), LR $KIO_3 = 214.00$ Min assay (iodometric) 99.5%	PO4960	100g	•
	Potassium iodate (V), AR $KIO_3 = 214.00$ Min assay (after drying) 99.9% pH (5% solution) 5.5-9.0 R: 8 S: 17 CAS: 7758-05-6 UN: 5.1/1479 EINECS: 2318319	PO4963	100g	•
	Potassium iodate (VII), LR (potassium periodate) $KIO_4 = 230.00$ Min assay (iodometric) 99%	PO4974	100g	•
	R: 8-36/37/38 S: 17-26-36 CAS: 7790-21-8 UN: 5.1/1479 EINECS: 2321960			
	Potassium iodide, LR $KI = 166.00$ Min assay 99%	PO4976 PO4978	100g 500g	• •
	Potassium iodide, AR $KI = 166.00$ Min assay (calculated to the dried material) 99.8% pH (5% solution) 6.0-9.5 CAS: 7681-11-0 EINECS: 2316594	PO4981 PO4983	100g 500g	• •
	Potassium manganate (VII), LR (potassium permanganate) $KMnO_4 = 158.03$ Min assay 99%	PO4988	500g	•
	Potassium manganate (VII), AR $KMnO_4 = 158.03$ Min assay 99.5% R: 8-22-50/53 S: 60-61 CAS: 7722-64-7 UN: 5.1/1490 EINECS: 2317603	PO4993	250g	•
	Potassium manganate (VII), 0.2 M (N) standard solution	PO4998	2.5Lt	•
	Potassium manganate (VII), 0.02 M (0.1N) standard solution	PO5000	2.5Lt	•
	Potassium manganate (VII), 0.02 M (0.1N) C.V.S. to make 1Lt	PO5004	Pk of 6	•
	EINECS: 2317603			
	Potassium metabisulphite LR (Potassium disulphite (IV)) $K_2S_2O_5 = 222.31$ Min assay 96% R: 31-37-41 S: 26-39 CAS: 4429-42-9 EINECS: 2407953	PO5008	500g	•
	Potassium nitrate, LR $KNO_3 = 101.10$ Min assay 99% R: 9 S: 9-41 CAS: 7757-79-1 UN: 5.1/1486 EINECS: 2318188	PO5012	500g	•







Hazard	Chemical	Cat. No.	Qty.	Price
	Potassium nitrite, LR (potassium nitrate (III)) KNO ₂ = 85.10 Min assay (ex NO ₂) 95%	PO5018	100g	•
	R: 8-25-50 S: 45-61 CAS: 7758-09-0 UN: 5.1/1488 EINECS: 2318324			
	Potassium oxalate, LR (potassium ethanedioate) (COOK) ₂ .H ₂ O = 184.23 Min assay (oxidimetric) 99%	PO5022	100g	•
	R: 21/22 S: 24/25 CAS: 583-52-8 UN: 6.1/3282 EINECS: 2095068			
	Potassium periodate, see Potassium iodate (VII)			
	Potassium permanganate, see Potassium manganate (VII)			
	Potassium persulphate, LR (potassium peroxodisulphate (VI)) K ₂ S ₂ O ₈ = 270.31	PO5032	500g	•
	Min assay 97% R: 8-22-36/37/38-42/43 S: 22-24-26-37 CAS: 7727-21-1 UN: 5.1/1492 EINECS: 2317818			
	Potassium sodium (+) - tartrate, LR COOK.CH(OH).CH(OH).COONa.4H ₂ O = 282.22 Assay 99-102%	PO5036	500g	•
	CAS: 6381-59-5 EINECS: 2061568			
	Potassium sulphate, LR K ₂ SO ₄ = 174.25	PO5042	500g	•
	Min assay 99% CAS: 7778-80-5 EINECS: 2319155			
	Potassium thiocyanate, LR KSCN = 97.18	PO5060	100g	•
	Min assay 97.0% R: 20/21/22-32 S: 13 CAS: 333-20-0 EINECS: 2063701	PO5062	500g	•
	L - Proline NH ₂ .CH ₂ .CH ₂ .CH ₂ .CH ₂ .COOH = 115.15 Min assay (ex N) 98%	PR5080	5g	•
	CAS: 147-85-3 EINECS: 2057022			
	Propane - 1,2 - diol, LR CH ₃ .CH(OH).CH ₂ .OH = 76.10	PR5082	500ml	•
	Min assay (GLC) 99% Wt per ml at 20°C 1.035-1.037g CAS: 57-55-6 EINECS: 2003380			
	Propan - 1 - ol, LR (n - propanol) CH ₃ .CH ₂ .CH ₂ .OH = 60.10	PR5088	500ml	•
15°C	Min assay (GLC) 99.5% Wt per ml at 20°C 0.803-0.806g Boiling range (95%) 96-99°C	PR5090	2.5Lt	•
	R: 11-41-67 S: 7-16-24-26-39 CAS: 71-23-8 UN: 3.2/1274 EINECS: 2007469			

Hazard	Chemical	Cat. No.	Qty.	Price
	Propan - 2 - ol, LR (iso - propyl alcohol) (CH ₃) ₂ CHOH = 60.10	PR5094	500ml	•
12°C	Min assay (GLC) 99.5% Wt per ml at 20°C 0.783-0.786g	PR5096	2.5Lt	•
	R: 11-36-37 S: 7-16-24/25-26 CAS: 67-63-0 UN: 3.2/1219 EINECS: 2006617	PR50974	4 x 5Lt	•
	Propanone see Acetone			
	Propionaldehyde, LR (propanal) CH ₃ .CH ₂ .CHO = 58.08	PR5102	100ml	•
-9°C	Min assay (ex CHO) 95% Wt per ml at 20°C 0.805-0.807g	PR5104	500ml	•
	R: 11-36/37/38 S: 9-16-29 CAS: 123-38-6 UN: 3.2/1275 EINECS: 2046230			
	Propionic acid, LR (propanoic acid) CH ₃ .CH ₂ .COOH = 74.08	PR5106	500ml	•
	Min assay (GLC) 99% Wt per ml at 20°C 0.991-0.994g R: 34 S: 23-36-45 CAS: 79-09-4 UN: 8/1848 EINECS: 2011763			
	Pumice stone, lump	PR5112	500g	•
	CAS: 1332-09-8			
	Pyridine, LR C ₅ H ₅ N = 79.10	PY5116	100ml	•
20°C	Min assay (GLC) 98% Wt per ml at 20°C 0.980-0.983g	PY5118	500ml	•
	R: 11-20/21/22 S: 26-28 CAS: 110-86-1 UN: 3.2/1282 EINECS: 2038099			
	Pyrogallol, crystals LR (benzene - 1,2,3 - triol) C ₆ H ₃ (OH) ₃ = 126.11	PY5122	25g	•
	Min assay 97.0% R: 20/21/22 -68-52/53 S: 36/37-61 CAS: 87-66-1 UN: 6.1/2811 EINECS: 2017629	PY5124	100g	•
	Pyruvic acid, LR (2 - oxopropanoic acid) CH ₃ .CO.COOH = 88.06	PY5132	25ml	•
	Assay (acidimetric) 99-101% Assay (ex ketone group) 98-102% Wt per ml at 20°C 1.268-1.272g R: 36/38 S: 18 CAS: 127-17-3 UN: 8/1760 EINECS: 2048243			
	Quinine, LR C ₂₀ H ₂₄ N ₂ O ₂ .3H ₂ O = 378.47	QU5140	1g	•
	R: 21/22-36/38 S: 22-24/25 CAS: 130-95-0 EINECS: 2050032			
	Quinol, LR (benzene - 1,4 - diol) C ₆ H ₄ (OH) ₂ = 110.11	QU5146	100g	•
	Assay 89-101% R: 22-40-41-43-50-68 S: 26-36/37/39-61 CAS: 123-31-9 UN: 6.1/2662 EINECS: 2046178			







Hazard	Chemical	Cat. No.	Qty.	Price
	Rennet, powder	RE5160	5g	•
		RE5162	25g	•
	EINECS: 2327962			
	Rennet, essence	RE5166	100ml	•
		RE5168	500ml	•
	Resazurin, tablets for milk testing	RE5172	10	•
		RE5174	100	•
	CAS: 550-822-3 EINECS: 2637185			
	Resorcinol, LR (benzene - 1,3 - diol)	RE5184	100g	•
	$C_6H_4(OH)_2 = 110.11$			
	Min assay 98%			
	R: 22-36/38 -50 S: 26-61			
	CAS: 108-46-3 UN: 6.1/2876 EINECS: 2035852			
	D (-) Ribose	RI5202	1g	•
	$CH_2(CH_2OH)_4O = 150.13$	RI5204	5g	•
	CAS: 50-69-1 EINECS: 2000594			
	Ringer's solution, tablets 0.25 strength	RI5210	100	•
	Rock salt, see Sodium chloride, native			
	Safranin O, stain	SA5250	5g	•
	CAS: 477-73-6 EINECS: 2075188			
	Safranin, Alcoholic 1% solution	SA5256	100ml	•
	R: 10			
	Safranin, Aqueous 1% solution	SA5262	100ml	•
	Salicylic acid, LR (2 - hydroxybenzoic acid)	SA5266	100g	•
	$C_6H_4(OH).COOH = 138.12$			
	Min assay 99%			
	R: 22-37/38-41 S: 26-39			
	CAS: 69-72-7 EINECS: 2007123			
	Salol - see Phenyl salicylate			
	Sand, acid washed LR	SA5272	1Kg	•
	Sand, fine white	SA5278	5Kg	•
	EINECS: 2315454			
	Saponin	SA5280	25g	•
	R: 36/37 S: 24			
	CAS: 8047-15-2 EINECS: 2324626			
	Schiff's reagent, for detection of aldehydes	SC5292	500ml	•
	R: 36/37/38-21/22 S: 26			
	UN: 6.1/2810			












Hazard	Chemical	Cat. No.	Qty.	Price
	Schultze's solution, (chlor - zinc - iodine)	SC5296	100ml	•
	Wt per ml at 20°C about 1.80g			
	R: 34 S: 24/25-45			
	UN: 8/1760			
	Sebacoyl chloride, LR (decanedioyl chloride)	SE5300	25ml	•
	$Cl.CO.(CH_2)_8.CO.Cl = 239.14$			
	Min assay (acidimetric) 97%			
	(ex chloride) 97%			
	Wt per ml at 20°C 1.116-1.120g			
	R: 34-37 S: 26-36/37/39-45			
	CAS: 111-19-3 UN: 8/3265 EINECS: 2038434			
	Sebacoyl chloride, 5% solution in Cyclohexane	SE5306	100ml	•
	-17°C			
	R: 11-36/38 S: 9-16-26-33			
	UN: 3.1/2924			
	Selenium, powder LR	SE5308	10g	•
	Se = 78.96			
	Min assay (iodometric) 99%			
	R: 23/25-33-50/53 S: 20/21-28-45-61			
	CAS: 7782-49-2 EINECS: 2319574			
	L - Serine	SE5322	5g	•
	$CH_2(OH).CH(NH_2).COOH = 105.09$			
	Min assay (exN) 98.5%			
	CAS: 56-45-1 EINECS: 2002743			
	Shellac, orange	SH5324	100g	•
	CAS: 9000-59-3 EINECS: 2325499			
	Silica, precipitated (silicon (IV) oxide)	SI5330	250g	•
	$SiO_2 = 60.08$			
	CAS: 7631-86-9 EINECS: 2315454			
	Silica gel, coarse (1-3mm)	SI5332	500g	•
	Silica gel, self-indicating coarse (1-3mm)	SI5336	500g	•
	Orange to colourless (very pale yellow)			
	Non Toxic			
	Silica gel, self-indicating coarse (1-3mm)	SI5338	500g	•
	Blue to Pink			
	R: 49 S: 22-45-60			
	CAS: 63231-67-4 EINECS: 231-900-3			
	Silica gel, for TLC size 28-200 mesh	SI5340	100g	•
	CAS: 63231-67-4 EINECS: 2315454			
	Silicon, powder	SI5344	100g	•
	Si = 28.09			
	R: 11 S: 16			
	CAS: 7440-21-3 UN: 4.1/1346 EINECS: 2311308			
	Silicon chloride, LR (silicon tetrachloride)	SI5350	100ml	•
	$SiCl_4 = 169.90$			
	Min assay (exCl) 98%			
	Wt per ml at 20°C about 1.5g			
	R: 14-36/37/38 S: 7/8-26			
	CAS: 10026-04-7 UN: 8/1818 EINECS: 2330540			










Hazard	Chemical	Cat. No.	Qty.	Price
	Silver, wire Ag = 107.87 CAS: 7440-22-4 EINECS: 2311313	SI5364	10g	•
	Silver nitrate, LR AgNO ₃ = 169.87 Min assay (Ex Ag) 99.8%	SI5370 SI5372 SI5374	10g 25g 100g	• • •
	Silver nitrate, AR AgNO ₃ = 169.87 Min assay 99.9% pH (4% solution) 5.4-6.4 R: 34-50/53 S: 26-45-60-61 CAS: 7761-88-8 UN:5.1/1493 EINECS: 2318539	SI5377	25g	•
	Silver nitrate, 0.1 M (0.1N) standard solution	SI5382 SI5386	500ml 2.5Lt	• •
	Silver sulphate, LR Ag ₂ SO ₄ = 311.79 Min assay (ex Ag) 98.5% R: 41 S: 22-26-39 CAS: 10294-26-5 EINECS: 2336537	SI5394	10g	•
	Soap solution, Clark's	SO5400	2.5Lt	•
	Soap solution, Wanklyn's 1ml ≡ 1mg CaCO ₃ R: 11-20/22 S: 7-16-24-45 UN: 3.2/1170	SO5404	2.5Lt	•
	Soda lime, 'Carbosorb' granules size 3-5mm	SO5412	500g	•
	Soda lime, 'Carbosorb' self indicating granules size 3-5 mm R: 34 S: 26-36/37/39-45 CAS: 8006-28-8 UN: 8/1907 EINECS: 2875397	SO5416	500g	•
	Sodium, in liquid paraffin LR Na = 22.99	SO5422	25g	•
	R: 14/15-34 S: 5-8-43-45 CAS: 7440-23-5 UN: 4.3/1428 EINECS: 2311329			
	Sodium acetate 3 - water, LR (sodium ethanoate) CH ₃ COONa.3H ₂ O = 136.08 Assay (ex Na) 99-102% CAS: 6131-90-4 EINECS: 2048238	SO5436	500g	•
	Sodium acetate anhydrous, LR CH ₃ COONa = 82.03 Min assay (ex Na) 98% CAS: 127-09-3 EINECS: 2048238	SO5444	500g	•
	Sodium alginate CAS: 9005-38-3	SO5448 SO5450	25g 100g	• •




Hazard	Chemical	Cat. No.	Qty.	Price
	Sodium benzoate, LR C ₆ H ₅ COONa = 144.11 Min assay (on dry material) 99% CAS: 532-32-1 EINECS: 2085348	SO5456	250g	•
	Sodium bismuthate (V), LR NaBiO ₃ = 279.97 Min assay 85% CAS: 12232-99-4 EINECS: 2354556	SO5462	25g	•
	Sodium bromate, LR NaBrO ₃ = 150.89 Min assay (iodometric) 99%	SO5466	100g	•
	R: 8-22 S: 24/25 CAS: 7789-38-0 UN: 5.1/1494 EINECS: 2321604			
	Sodium bromide, LR NaBr = 102.89 Min assay (ex Br) after drying 99% CAS: 7647-15-6 EINECS: 2315999	SO5470	250g	•
	Sodium carbonate anhydrous, LR Na ₂ CO ₃ = 105.99 Min assay (acidimetric) after drying 99.5%	SO5480 SO5482	500g 3Kg	• •
	Sodium carbonate anhydrous, AR Na ₂ CO ₃ = 105.99 Min assay (after drying at 300°C) 99.9% R: 36 S: 22-26 CAS: 497-19-8 EINECS: 2078388	SO5487	500g	•
	Sodium carbonate 10 - water, Na ₂ CO ₃ .10H ₂ O = 286.14 Min assay (acidimetric) 98.5%	SO5490 SO5494	1Kg 2Kg	• •
	R: 36 S: 22-26 CAS: 6132-02-1 EINECS: 2078388			
	Sodium chlorate (V), LR NaClO ₃ = 106.44 Min assay (ex Cl) 98%	SO5520	500g	•
	R: 9-22 S: 13-17-46 CAS: 7775-09-9 UN: 5.1/1495 EINECS: 2318874			
	Sodium chloride, granular T NaCl = 58.44	SO5524	3Kg	•
	Sodium chloride, LR NaCl = 58.44 Min assay (ex Cl) (after ignition) 99.5%	SO5528 SO5530 SO5532	1Kg 3Kg 10Kg	• • •
	Sodium chloride, AR NaCl = 58.44 Min assay (after ignition) 99.9% pH (5% solution) 5.0-8.0	SO5535	500g	•
	Sodium chloride, native rock salt CAS: 7647-14-5 EINECS: 2315983	SO5540 SO5544	1Kg 3Kg	• •



Hazard	Chemical	Cat. No.	Qty.	Price
	Sodium chromate (VI), LR Na ₂ CrO ₄ ·4H ₂ O = 234.03 Min assay 96%	SO5548	500g	•
	R: 49-46-21-25-26-37/38-41-43-50/53 S: 53-45-60-61 CAS: 7775-11-3 UN: 9/3077 EINECS: 2318895			
	tri - Sodium citrate, LR Na ₃ C ₆ H ₅ O ₇ ·2H ₂ O = 294.10 Min assay (ex Na) 99-100%	SO5550	500g	•
	tri - Sodium citrate, AR Na ₃ C ₆ H ₅ O ₇ ·2H ₂ O = 294.10 Min assay 99.0% pH (5% solution) 7.5-9.0	SO5555	500g	•
	CAS: 6132-04-3 EINECS: 2006753			
	Sodium cobaltinitrite, LR (sodium hexanitrocobaltate (III)) Na ₃ Co(NO ₂) ₆ = 403.94	SO5558	25g	•
	R: 8-40 S: 25-36/37 CAS: 13600-98-1 UN: 5.1/1479 EINECS: 2370777			
	Sodium dichromate (VI) anhydrous, LR Na ₂ Cr ₂ O ₇ = 264.00 Min assay (iodometric) 98%	SO5564	500g	•
	R: 8-49-46-43-21-25-26-37/38-41-50/53 S: 53-45-60-61			
	CAS: 7789-12-0 UN: 6.1/3288 EINECS: 2341903			
	Sodium dihydrogen phosphate (V) - 2 - water, LR NaH ₂ PO ₄ ·2H ₂ O = 156.01 Min assay (acidimetric) 98%	SO5566	500g	•
	CAS: 13472-35-0 EINECS: 2314492			
	Sodium dithionite, LR (sodium tetraoxodisulphate) Na ₂ S ₂ O ₄ = 174.00 Min assay (iodometric) 85% Na ₂ S ₂ O ₄	SO5586	500g	•
	R: 7-22-31 S: 7/8-26-28-43 CAS: 7775-14-6 UN: 4.2/1384 EINECS: 2318900			
	Sodium ethanedioate, LR (sodium oxalate) (COONa) ₂ = 134.00 Min assay (oxidimetric) 99.5%	SO5590	250g	•
	R: 21/22 S: 24/25 CAS: 62-76-0 UN: 6.1/3282 EINECS: 2005503			
	Sodium fluoride, LR NaF = 41.99 Min assay (ion exchange) 97%	SO5600	100g	•
	R: 25-32-36/38 S: 22-36-45 CAS: 7681-49-4 UN: 6.1/1690 EINECS: 2316678			
	Sodium formate, LR (sodium methanoate) H.COONa = 68.01 Min assay (on dried material) (ex formate) 98%	SO5606	500g	•
	CAS: 141-53-7 EINECS: 2054880			








Hazard	Chemical	Cat. No.	Qty.	Price
	Sodium hexametaphosphate, (Calgon) CAS: 10124-56-8 EINECS: 2333431	SO5608	500g	•
	Sodium hydrogen carbonate, LR (sodium bicarbonate) NaHCO ₃ = 84.01 Assay (acidimetric) 99-101%	SO5610 SO5612	500g 3Kg	• •
	Sodium hydrogen carbonate, AR NaHCO ₃ = 84.01 Min assay 99.5%	SO5615	500g	•
	CAS: 144-55-8 EINECS: 2056338			
	di - Sodium hydrogen phosphate (V) - 12 - water, LR Na ₂ HPO ₄ ·12H ₂ O = 358.14 Min assay (acidimetric) 98%	SO5626	500g	•
	CAS: 10039-32-4 EINECS: 2314487			
	di - Sodium hydrogen phosphate (V) anhydrous, LR Na ₂ HPO ₄ = 141.96 Min assay (acidimetric)(on dried material) 98%	SO5630	500g	•
	CAS: 7558-79-4 EINECS: 2314487			
	Sodium hydrogen sulphate fused, LR (sodium bisulphate) NaHSO ₄ = 120.06 Assay (acidimetric) 99-103%	SO5634	500g	•
	R: 41 S: 24-26 CAS: 10034-88-5 UN: 8/3260 EINECS: 2316657			
	Sodium hydroxide, pearl NaOH = 40.00	SO5642 SO5646	500g 3Kg	• •
	Sodium hydroxide, pellets LR NaOH = 40.00 Min assay 96.0%	SO5656 SO5658	500g 1Kg	• •
	Sodium hydroxide, pellets AR NaOH = 40.00 Min assay 98.0%	SO5663	500g	•
	R: 35 S: 26-37/39-45 CAS: 1310-73-2 UN: 8/1823 EINECS: 2151855			
	Sodium hydroxide 2 M (2N), standard solution	SO5674	2.5Lt	•
	R: 35 S: 26-37/39-45 UN: 8/1824			
	Sodium hydroxide 1 M (N), standard solution	SO5678 SO5680	2.5Lt 5Lt	• •
	R: 35 S: 26-37/39-45 UN: 8/1824			
	Sodium hydroxide 0.1 M (0.1N), standard solution	SO5684 SO5686	2.5Lt 5Lt	• •
	Sodium hydroxide 1 M (N), C.V.S. to make 1Lt	SO5692	Pk of 6	•
	R: 35 S: 26-37/39-45 UN: 8/1824			
	Sodium hydroxide 0.1 M (0.1N), C.V.S. to make 1Lt	SO5696	Pk of 6	•
	R: 35 S: 26-37/39-45 UN: 8/1824			









Hazard	Chemical	Cat. No.	Qty.	Price
	Sodium hypochlorite, solution (sodium chlorate (I)) 10 - 14% w/v available Cl	SO5700 SO5702	2.5Lt 5Lt	• •
	R: 31-34 S: 28-45-50 CAS: 7681-52-9 UN: 8/1791 EINECS: 2316683			
	Sodium iodate (V), LR NaIO ₃ ·H ₂ O = 215.91 Assay (iodometric) 99.5%	SO5706	50g	•
	R: 8-22-36/37/38 S: 17-36/37 CAS: 7681-55-2 UN: 5.1/1479 EINECS: 2316725			
	Sodium iodide, LR NaI = 149.89 Min assay (ex I) (after drying) 99.0%	SO5708	100g	•
	CAS: 7681-82-5 EINECS: 2316793			
	Sodium lauryl sulphate C ₁₂ H ₂₅ OSO ₃ ·Na = 288.38	SO5712	250g	•
	R: 22-36/37 S: 26-28 CAS: 151-21-3 EINECS: 2057881			
	Sodium metabisulphite, LR (sodium disulphate (V)) Na ₂ S ₂ O ₅ = 190.10 Min assay (iodometric) 95%	SO5716	500g	•
	R: 22-31-41 S: 26-39-46 CAS: 7681-57-4 EINECS: 2316730			
	Sodium metavanadate, LR NaVO ₃ = 121.93 Min assay (ex V) 98%	SO5722	25g	•
	R: 25-36/37/38 S: 37-45 CAS: 13718-26-8 UN: 6.1/3285 EINECS: 2372727			
	Sodium molybdate (VI) - 2 water, LR Na ₂ MoO ₄ ·2H ₂ O = 241.95 Assay (ex Mo) 98-104%	SO5728	100g	•
	CAS: 10102-40-6 EINECS: 2315517			
	Sodium nitrate, LR NaNO ₃ = 84.99 Min assay (ex NO ₃) 98%	SO5732	500g	•
	R: 8-22-36 S: 22-24-41 CAS: 7631-99-4 UN: 5.1/1498 EINECS: 2315543			
	Sodium nitrite, LR (sodium nitrate (III)) NaNO ₂ = 69.00 Min assay (ex NO ₂) 96%	SO5740	500g	•
	R: 8-25-50 S: 45-61 CAS: 7632-00-0 UN: 5.1/1500 EINECS: 2315559			
	Sodium nitroprusside, LR Na ₂ [Fe(CN) ₅ NO]·2H ₂ O = 297.95 Min assay 98.5%	SO5748	50g	•
	R: 22/24/25-32 S: 22-36/37-45 CAS: 13755-38-9 UN: 6.1/3288 EINECS: 2383739			






Hazard	Chemical	Cat. No.	Qty.	Price
	Sodium oleate C ₁₇ H ₃₃ ·COONa = 304.45	SO5752	500g	•
	CAS: 143-19-1 EINECS: 2055910			
	Sodium oxalate, see Sodium ethanedioate			
	Sodium perborate, LR NaBO ₂ ·H ₂ O ₂ ·3H ₂ O = 153.86 Min assay (oxidimetric) 96.0%	SO5754	250g	•
	R: 8-22-36 S: 9-26 CAS: 10486-00-7 UN: 5.1/1479 EINECS: 2391729			
	Sodium peroxide, AR Na ₂ O ₂ = 77.98 Min assay 95.0%	SO5765	25g	•
	R: 8-35 S: 8-27-39-45 CAS: 1313-60-6 UN: 5.1/1504 EINECS: 2152094			
	Sodium persulphate, LR (sodium peroxodisulphate (VI)) Na ₂ S ₂ O ₈ = 238.09 Min assay (iodometric) 95%	SO5768	250g	•
	R: 8-22-36/37/38-42/43 S: 22-24-26 -37-45 CAS: 7775-27-1 UN: 5.1/1505 EINECS: 2318921			
	tri - Sodium phosphate (V) - 12 water, LR Na ₃ PO ₄ ·12H ₂ O = 380.12 Min assay (acidimetric) 98%	SO5774	500g	•
	R: 36/38 CAS: 10101-89-0 EINECS: 2315098			
	Sodium salicylate, LR (Sodium - 2 - hydroxybenzoate) C ₆ H ₄ (OH)·COONa = 160.10 Min assay (acidimetric)(after drying) 99.5%	SO5778	250g	•
	R: 22 S: 24/25 CAS: 54-21-7 EINECS: 2001980			
	Sodium sesquicarbonate, LR Na ₂ CO ₃ ·NaHCO ₃ ·2H ₂ O = 226.03 Min assay 99.5%	SO5782	500g	•
	CAS: 533-96-0 EINECS: 2085809			
	Sodium silicate, powder	SO5788	500g	•
	R: 36/38 S: 26/28 CAS: 6834-92-0 UN: 8/3253 EINECS: 2156874			
	Sodium silicate, solution (water-glass) Wt per ml at 20°C about 1.50g	SO5792	2.5Lt	•
	R: 36/38 S: 26/28 CAS: 1344-09-8 UN: 8/1760 EINECS: 2156874			
	Sodium stearate, (sodium octadecanoate) CH ₃ (CH ₂) ₁₆ ·COONa = 306.46	SO5796	100g	•
	CAS: 822-16-2 EINECS: 2124905			













Hazard	Chemical	Cat. No.	Qty.	Price
	Sodium sulphate anhydrous, LR Na ₂ SO ₄ = 142.04 Min assay (after drying) 99% CAS: 7757-82-6 EINECS: 2318209	SO5812	500g	•
	Sodium sulphide, LR Na ₂ S.xH ₂ O Min assay (ex S) 30% Na ₂ S R: 31-34-50 S: 26-45-61 CAS: 1313-82-2 UN: 8/1849 EINECS: 2152115	SO5822 SO5824	100g 500g	• •
				
	Sodium sulphite anhydrous, LR Na ₂ SO ₃ = 126.04 Min assay (iodometric) 96% CAS: 7757-83-7 EINECS: 2318214	SO5832	500g	•
	Sodium tauroglycocholate, from ox bile CAS: 11006-55-6	SO5846	25g	•
	di - Sodium tetraborate 10 - water, LR (borax) Na ₂ B ₄ O ₇ .10H ₂ O = 381.37 Min assay (acidimetric) 99.0-103.0% S: 24/25 CAS: 1303-96-4 EINECS: 2155404	SO5852	500g	•
	Sodium thiosulphate 5 - water, LR Na ₂ S ₂ O ₃ .5H ₂ O = 248.17 Min assay (iodometric) 99%	SO5862 SO5864	500g 3Kg	• •
	Sodium thiosulphate 5 - water, AR Na ₂ S ₂ O ₃ .5H ₂ O = 248.17 Min assay 99.5% pH (5% solution) 5.5-7.5 CAS: 10102-17-7 EINECS: 2318675	SO5867	500g	•
	Sodium thiosulphate, anhydrous LR Na ₂ S ₂ O ₃ = 158.10 Min assay (iodometric) 95% CAS: 1772-98-7 EINECS: 2318675	SO5872	500g	•
	Sodium thiosulphate IM (1N), standard solution SO5876 2.5Lt • SO5878 5Lt •			
	Sodium thiosulphate 0.1M (0.1N), standard solution SO5882 2.5Lt • SO5884 5Lt •			
	Sodium thiosulphate 0.1M (0.1N), C.V.S. to make 1Lt SO5890 Pk of 6 •			
	Sodium tungstate 2 - water, LR Na ₂ WO ₄ .2H ₂ O = 329.86 Min assay (ex W) 96% R: 22-36/37/38 S: 26-36 CAS: 10213-10-2 EINECS: 2367434	SO5892	25g	•
	Soil indicator, pH 4.0 - 8.0 (in 9 steps) SO5900 500ml •			






Hazard	Chemical	Cat. No.	Qty.	Price
	L(-)Sorbitose O.C.H ₂ .(C.H.OH) ₃ .C(OH).C.H ₂ .O.H = 180.16 CAS: 87-79-6 EINECS: 2017718	SO5904	25g	•
	Stannic salts, see Tin (IV) salts			
	Stannous salts, see Tin (II) salts			
	Starch, maize LR CAS: 9005-25-6 EINECS: 2326796	ST5924	500g	•
	Starch, potato LR CAS: 9005-25-8 EINECS: 2326796	ST5928	500g	•
	Starch, soluble LR CAS: 9005-25-8 EINECS: 2326864	ST5936 ST5941	500g 500g	• •
	Starch substitute (Iodine indicator) A water soluble replacement for starch in Iodine titrations. Forms a dark blue complex in the presence of Iodine. CAS: 9005-25-8 EINECS: 2326864	ST5942	100g	•
	Starch, wheat LR CAS: 9005-25-8 EINECS: 2326796	ST5946	500g	•
	Stearic acid, LR (octadecanoic acid) CH ₃ .(CH ₂) ₁₆ .COOH = 284.48 Min assay (acidimetric) 98% CAS: 57-11-4 EINECS: 2003134	ST5950 ST5952	100g 500g	• •
	Steel wool CAS: 1633-05-2 EINECS: 2166437	ST5956	454g	•
	Strontium carbonate LR SrCO ₃ = 147.6 Min assay 97% CAS: 1633-05-2 EINECS: 2166437	ST5958	100g	•
	Strontium chloride, LR SrCl ₂ .6H ₂ O = 266.62 Assay (ex Cl) 98-101% CAS: 10025-70-4	ST5960	100g	•
	Strontium nitrate, anhydrous LR Sr(NO ₃) ₂ = 211.63 Min assay (complexometric) 99% R: 8 CAS: 10042-76-9 UN: 5.1/1507 EINECS: 2331319	ST5968	250g	•
	Styrene, LR (phenylethylene) stabilized C ₆ H ₅ .CH:CH ₂ = 104.15 Min assay (GLC) 99.5% Wt per ml at 20°C 0.904-0.906g R: 10-20-36/38 S: 23 CAS: 100-42-5 UN: 3.3/2055 EINECS: 2028515	ST5972 ST5974	250ml 500ml	• •







Hazard	Chemical	Cat. No.	Qty.	Price
	Succinic acid, LR (butanedioic acid) (CH ₂ COOH) ₂ = 118.09 Min assay (acidimetric) 99%	SU5990 SU5992	100g 500g	• •
	R: 36 S: 36 CAS: 110-15-6 EINECS: 2037404			
	Sucrose, T C ₁₂ H ₂₂ O ₁₁ = 342.30	SU5994	3Kg	•
	Sucrose, LR C ₁₂ H ₂₂ O ₁₁ = 342.30	SU5996 SU5998	500g 3Kg	• •
	Sucrose, AR C ₁₂ H ₂₂ O ₁₁ = 342.30	SU6001	500g	•
	CAS: 57-50-1 EINECS: 2003349			
	Sudan III, stain	SU6008	10g	•
	CAS: 85-86-9 EINECS: 2016384			
	Sudan III solution, alcoholic 0.5%	SU6014	100ml	•
	R: 11 S: 7-16 UN: 3.3/1170 12°C			
	Sudan IV, stain	SU6020	5g	•
	R: 21/22 S: 22-25 CAS: 83-85-6 EINECS: 2016358			
	Sudan black B, stain	SU6024	5g	•
	CAS: 4197-25-5 EINECS: 2240871			
	Sulphamic acid, LR (aminosulphonic acid) NH ₂ SO ₃ H = 97.09 Min assay (acidimetric) 99%	SU6034	500g	•
	R: 36/38-52/53 S: 26-28-61 CAS: 5329-14-6 UN: 8/2967 EINECS: 2262188			
	Sulphanilic acid, LR NH ₂ C ₆ H ₄ SO ₃ H = 173.19 Min assay (acidimetric) 99%	SU6038	100g	•
	R: 36/38-43 S: 24-37 CAS: 121-57-3 EINECS: 2044825			
	Sulphur, fine powder S = 32.06	SU6040 SU6042	500g 1Kg	• •
	Sulphur, precipitated S = 32.06	SU6046	500g	•
	Sulphur, roll S = 32.06	SU6050 SU6052	1Kg 2.5Kg	• •
	R: 10 CAS: 7704-34-9 UN: 4.1/1350 EINECS: 2317226			
	Sulphuric acid, 98% LR H ₂ SO ₄ = 98.07 Assay (acidimetric) 97-99% Wt per ml at 20°C about 1.835g	SU6072 SU6074 SU60744 SU6076	1Lt 2.5Lt 4x2.5Lt 2.5Lt*	• • • •
	* supplied in glass Safecoat Bottle			
	Sulphuric acid, 98% AR H ₂ SO ₄ = 98.07 Min assay 98.0% sp.gr: 1.84 R: 35 S: 26-30-45 CAS: 7664-93-9 UN: 8/1830 EINECS: 2316395	SU6079	2.5Lt	•





Hazard	Chemical	Cat. No.	Qty.	Price
	Sulphuric acid 2M (4N), standard solution	SU6104	2.5Lt	•
	R: 35 S: 26-30 UN: 8/2796 EINECS: 2316395			
	Sulphuric acid 1M (2N), standard solution	SU6108	2.5Lt	•
	R: 36/38 S: 26 UN: 8/2796			
	Sulphuric acid 0.5M (N), standard solution	SU6112	2.5Lt	•
	R: 36/38 S: 26 UN: 8/2796			
	Sulphuric acid 0.05M (0.1N), standard solution	SU6120	2.5Lt	•
	Sulphuric acid 0.05M (0.1N), C.V.S. to make 1Lt	SU6126	Pk of 6	•
	R: 36/38 S: 26 UN: 8/2796			
	Talc, fine powder (French chalk)	TA6150	1Kg	•
	CAS: 14807-96-6 EINECS: 2388779			
	Tannic acid, LR C ₇₆ H ₅₂ O ₄₆ = 1701.22	TA6156	100g	•
	CAS: 1401-55-4 EINECS: 2157532			
	(+) Tartaric acid, LR (CHOH.COOH) ₂ = 150.09 Min assay (acidimetric) 99%	TA6160	500g	•
	CAS: 87-69-4 EINECS: 2017660			
	Test papers, see Page 214			
	'Teepol'	TE6170	5Lt	•
	Tetrachloroethylene, LR (1,1,2,2 - tetrachloroethane) CCl ₂ :CCl ₂ = 165.83 Min assay (GLC) 99.8% Wt per ml at 20°C 1.620-1.622g	TE6178	500ml	•
	R: 40-51/53 S: 23-36/37-61 CAS: 127-18-4 UN: 6.1/1897 EINECS: 2048259			
	Tetrazolium Salt [C ₆ H ₅ CN(N(C ₆ H ₅)) ₂ :N]Cl.H ₂ O = 352.82 Min assay (NAT) 99.5% Melting range 235-250°C	TE6180	5g	•
	CAS: 298-96-4 EINECS: 2060716			
	Thiourea, LR (thiocarbamide) NH ₂ .CS.NH ₂ = 76.12 Assay (argentometric) 99-101%	TH6188	100g	•
	R: 22-40-51/53-63 S: 36/37-61 CAS: 62-56-6 UN: 6.1/2811 EINECS: 2005435			
	L - Threonine CH ₃ .CH(OH).CH(NH ₂).COOH = 119.12 Min assay (ex N) 99%	TH6196	5g	•
	CAS: 72-19-5 EINECS: 2007741			



Hazard	Chemical	Cat. No.	Qty.	Price
	Thymine C ₅ H ₈ N ₂ O ₂ = 126.11 Min assay (ex N) 98% CAS: 65-71-4 EINECS: 2006161	TH6200	5g	•
	Thymol, LR (CH ₃) ₂ CH.C ₆ H ₃ (CH ₃).OH = 150.22 Min assay (GLC) 99.5% R: 22-34-51/53 S: 26-28-36/37/39-45-61 CAS: 89-83-8 UN: 8/1759 EINECS: 2019448	TH6202	100g	•
	Thymol blue, (pH indicator) pH 1.2 - 2.8 red to yellow pH 8.0 - 9.6 yellow to blue CAS: 76-61-9 EINECS: 2009733	TH6204	5g	•
	Thymol blue, 0.04% indicator solution R: 11 S: 7-16 UN: 3.2/1993	TH6206 TH6208	100ml 500ml	• •
	Thymolphthalein, (pH indicator) pH 9.3 - 10.5 colourless to blue CAS: 125-20-2 EINECS: 2047297	TH6212	5g	•
	Tin, foil LR Sn = 118.69	TI6224	100g	•
	Tin, granulated LR Sn = 118.69	TI6228 TI6232	100g 500g	• •
	Tin, fine powder LR Sn = 118.69 CAS: 7440-31-5 EINECS: 2311418	TI6236	100g	•
	Tin (II) chloride - 2 - water, LR (stannous chloride) SnCl ₂ .2H ₂ O = 225.63 Min assay (oxidimetric) 95.0% R: 22-36/37/38 S: 26 CAS: 10025-69-1 EINECS: 2318680	TI6240	100g	•
	Tin (II) oxide, LR Min assay (ex stannous tin) 90% CAS: 814-94-8 EINECS: 2444995	TI6246	100g	•
	Tin (IV) chloride 5 - water, LR SnCl ₄ .5H ₂ O = 350.58 Min assay (ex Sn) 97.5% R: 34-52/53 S: 7/8-26-45-61 CAS: 10026-06-9 UN: 8/2440 EINECS: 2315889	TI6260	100g	•
	Tin (IV) oxide , LR SnO ₂ = 150.69 CAS: 18282-10-5 EINECS: 2421590	TI6264	100g	•
	Titanium (IV) oxide, LR (titanium dioxide) TiO ₂ = 79.89 Min assay (ex Ti) 98% CAS: 13463-67-7 EINECS: 2366755	TI6274	500g	•

Hazard	Chemical	Cat. No.	Qty.	Price
	Toluene low in sulphur, LR (methylbenzene) C ₆ H ₅ .CH ₃ = 92.14 Min assay (GLC) 99% Wt per ml at 20°C 0.860-0.866g 40°C	TO6280 TO6282	500ml 2.5Lt	• •
	Toluene, AR C ₆ H ₅ .CH ₃ = 92.14 Min assay (GLC) 99.5% Wt per ml at 20°C 0.867g R: 11-20 S: 16-25-29-33 CAS: 108-88-3 UN: 3.2/1294 EINECS: 2036259	TO6285	500ml	•
	o - Toluidine, LR CH ₃ .C ₆ H ₄ .NH ₂ = 107.16 Min assay (ex NH ₂) 99% Wt per ml at 20°C 0.997-1.000g Boiling range (95%) 198-201°C	TO6292	100ml	•
	R: 45-23/25-36-50 S: 53-45-61 CAS: 95-53-4 UN: 6.1/1708 EINECS: 2024290			
	p - Toluidine, LR (4 - methylphenylamine) CH ₃ .C ₆ H ₄ .NH ₂ = 107.16 Assay (ex NH ₂) 98-101%	TO6296	100g	•
	R: 23/24/25-36-40-43-50 S: 28-36/37-45-61 CAS: 106-49-0 UN: 6.1/1708 EINECS: 2034031			
	Toluidine Blue, Stain CAS: 6586-04-5	TO6298	5g	•
	Trichloroacetic acid, LR CCl ₃ .COOH = 163.39 Min assay (acidimetric) 98%	TR6300	100g	•
	R: 35-50/53 S: 26-36/37/39-45-60-61 CAS: 76-03-9 UN: 8/1839 EINECS: 2009272			
	I,I,I - Trichloroethane - No longer available, See EVOLVE CH.15 as an alternative Page 146			
	Trichloroethylene, LR (trichloroethene) CHCl.CCl ₂ = 131.39 Min assay (GLC) 99% Wt per ml at 20°C 1.462-1.466g	TR6312	500ml	•
	R: 45-36/38-52/53-67 S: 53-45-61 CAS: 79-01-6 UN: 6.1/1710 EINECS: 2011674			
	Trichloromethane, see Chloroform			
	Triethanolamine, LR N(CH ₂ .CH ₂ .OH) ₃ = 149.19 Min assay (ex total bases) 97% Wt per ml at 20°C 1.122-1.128g	TR6318	500ml	•
	R: 36/38 CAS: 102-71-6 EINECS: 2030498			
	2,2,4 - Trimethylpentane LR (iso - Octane) (CH ₃) ₃ CCH ₂ CH(CH ₃) ₂ = 114.23 Min assay 99% Boiling Range 98.3-99.5°C Wt per ml at 20°C 0.690-0.693g	TR6330	500ml	•
				
	R: 11.38. 50/53. 65. 67. S: 9. 16. 29. 33. 60. 61. 62 CAS: 540-84-1 UN: 3.2/1262 EINECS: 2087591			

Hazard	Chemical	Cat. No.	Qty.	Price
	Tris(hydroxymethyl)methylamine, LR NH ₂ C(CH ₂ OH) ₃ = 121.14 Min assay 99%	TR6334	100g	•
	CAS: 77-86-1 EINECS: 2010644			
	Trypsin, from beef pancreas	TR6336 TR6338	10g 25g	• •
	R: 36/37/38-42 S: 22-24-26-36/37 CAS: 9002-07-7 EINECS: 2326508			
	L - Tryptophan C ₆ H ₄ NH.CH ₂ C.CH ₂ CH(NH ₂).COOH = 204.23 Min assay (ex N) 99%	TR6344	5g	•
	CAS: 73-22-3 EINECS: 2007956			
	Turpentine, see Oil of turpentine			
	L - Tyrosine C ₆ H ₄ (OH).CH ₂ CH(NH ₂).COOH = 181.19 Min assay (ex total N) 98.5%	TY6348	25g	•
	CAS: 60-18-4 EINECS: 2004604			
	Universal indicator, 'Timstar' pH 4 - 11	UN6380 UN6382 UN6384	100ml 500ml 2.5Lt	• • •
	Universal indicator, 'BDH' pH 4 - 11	UN6388 UN6389	500ml 2.5Lt	• •
	R: 11-22 S: 7-16 UN: 3.3/1170			
	Colour card, (for Timstar Indicator)	UN6390	10	•
	Colour card, (for 'BDH' Indicator)	UN6392	10	•
	Universal, full range indicator 'BDH' pH 1 - 14	UN6398 UN6399	500ml 2.5Lt	• •
	Universal, full range indicator 'Timstar'	UN6400 UN6401	500ml 2.5Lt	• •
	R: 11-22 S: 7-16 UN: 3.3/1170			
	Colour card, (for Timstar F.R. Indicator)	UN6410	10	•
	Universal test papers, see Page 214			
	Urea, LR (carbamide) NH ₂ .CO.NH ₂ = 60.06 Min assay (Kjeldahl) 99%	UR6432	500g	•
	CAS: 57-13-6 EINECS: 2003155			
	Urease-active meal, from jack beans	UR6438	25g	•
	Urease tablets	UR6444	10	•
	EINECS: 2326560			

Hazard	Chemical	Cat. No.	Qty.	Price
	Urine test strips - See page 219			
	L - Valine (CH ₃) ₂ CH.CH(NH ₂).COOH = 117.15 Min assay (ex N) 99%	VA6480	25g	•
	CAS: 72-18-4 EINECS: 2007736			
	Water, purified H ₂ O = 18.015 pH 5.5-7.5	WA6490 WA6492	5Lt 25Lt	• •
	CAS: 7732-18-5 EINECS: 2317912			
	Wax, see individual entries			
	White spirit, sp. gr. about 0.77	WH6516	2.5Lt	•
	R: 10-51/53-65 S: 24/25-37-43-51-62 CAS: 8052-41-3 UN: 3.3/1300 EINECS: 2324893			
	Wright's stain	WR6554	5g	•
	CAS: 51938-72-8 EINECS: 2735415			
	Xylene low in sulphur, LR (dimethylbenzene) C ₆ H ₄ (CH ₃) ₂ = 106.17 Wt per ml at 20°C 0.855-0.865g Boiling range (95%) 137-142°C	XY6570 XY6572	500ml 2.5Lt	• •
	R: 10-20/21-38 S: 25 CAS: 1330-20-7 UN: 3.3/1307 EINECS: 2155357			
	Yeast, dried, active	YE6610 YE6612	100g 500g	• •
	EINECS: 2323879			
	Zinc, foil Zn = 65.38	ZI6648 ZI6650	250g 500g	• •
	Zinc, granulated T Zn = 65.38	ZI6654	500g	•
	Zinc, granulated LR Zn = 65.38 Min assay 99.8%	ZI6660	500g	•
	CAS: 7440-66-6 EINECS: 2311753			
	Zinc, powder LR Zn = 65.38 Min assay 90%	ZI6680	500g	•
	R: 10-15 S: 7/8-43 CAS: 7440-66-6 UN: 4.3/1436 EINECS: 2311753			
	Zinc acetate, LR (CH ₃ .COO) ₂ Zn.2H ₂ O = 219.50 Min assay (ex Zn) 98.5%	ZI6686	250g	•
	R: 22 S: 25 CAS: 5970-45-6 EINECS: 2091702			
	Zinc bromide, LR ZnBr ₂ = 225.19 Min assay (ex Zn) 98%	ZI6692	100g	•
	R: 34 S: 7/8-28-36/37/39-45 CAS: 7699-45-8 UN: 9/3077 EINECS: 2317184			

Hazard	Chemical	Cat. No.	Qty.	Price
	Zinc carbonate basic, LR Approximately $ZnCO_3 \cdot 2ZnO \cdot 3H_2O$ Min assay, as ZnO 68%	ZI6698	500g	•
	CAS: 5970-47-8 EINECS: 2224776			
	Zinc chloride LR $ZnCl_2 = 136.29$ Min assay (ex total Zn) 97%	ZI6702	500g	•
	R: 34-50/53 S: 7/8-28-45-60-61 CAS: 7646-85-7 UN: 8/2331 EINECS: 2315920			
	Zinc nitrate, LR $Zn(NO_3)_2 \cdot 6H_2O = 297.48$ Assay (ex Zn) 96-103%	ZI6706	250g	•
	R: 8-22-36/37/38 CAS: 10196-18-6 UN: 5.1/1514 EINECS: 2319438			

Hazard	Chemical	Cat. No.	Qty.	Price
	Zinc oxide, LR ZnO = 81.38 Min assay (after ignition) 99%	ZI6712	500g	•
	CAS: 1314-13-2 EINECS: 2152225			
	Zinc sulphate, LR $ZnSO_4 \cdot 7H_2O = 287.54$ Min assay 99%	ZI6718	500g	•
	R: 36/38-50/53 S: 22-25-60-61 CAS: 7446-20-0 UN: 9/3077 EINECS: 2317933			
	Zinc sulphide ZnS = 97.44	ZI6730	250g	•
	R: 31 CAS: 1314-98-3 EINECS: 2152513			

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01270 250459

TEST PAPERS



JOHNSON INDICATOR BOOKS

Cobalt chloride	TP7000	10 bks •
	TP7003	150 bks •

Comparator pH 1.0 - 3.5	TP7006	10 bks •
	TP7009	150 bks •

Comparator pH 3.6 - 5.1	TP7012	10 bks •
	TP7015	150 bks •

Comparator pH 5.2 - 6.7	TP7018	10 bks •
	TP7021	150 bks •

Comparator pH 6.8 - 8.3	TP7024	10 bks •
	TP7027	150 bks •

Comparator pH 8.4 - 10.0	TP7030	10 bks •
	TP7033	150 bks •

Lead acetate	TP7092	10 bks •
	TP7095	150 bks •

Litmus blue	TP7102	10 bks •
	TP7104	150 bks •

Litmus neutral	TP7108	10 bks •
	TP7110	150 bks •

Litmus red	TP7118	10 bks •
	TP7120	150 bks •

Phenolphthalein	TP7134	10 bks •
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Starch/iodide	TP7154	10 bks •
	TP7157	150 bks •

Turmeric	TP7162	10 bks •
	TP7164	150 bks •

Universal indicator pH 1 - 11	TP7170	10 bks •
	TP7172	150 bks •

Full Range Indicator pH 1 - 14	TP7180	10 bks •
	TP7182	150 bks •

JOHNSON INDICATOR REELS

Litmus Blue	TP7190	1 reel •
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Litmus Red	TP7192	1 reel •
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Universal indicator pH 1 - 11	TP7194	1 reel •
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Full Range indicator pH 1 - 14	TP7196	1 reel •
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WHATMAN INDICATOR REELS

Indicator papers - ER, pH 1 - 14	TP7042	1 reel •
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Indicator papers - N.R, pH 0.5 - 5.5	TP7048	1 reel •
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Indicator papers - N.R, pH 4 - 7	TP7054	1 reel •
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Indicator papers - N.R, pH 6.4 - 8	TP7060	1 reel •
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Indicator papers - N.R, pH 8 - 10	TP7066	1 reel •
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Litmus blue	TP7098	1 reel •
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Litmus red	TP7114	1 reel •
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Starch/iodide	TP7150	1 reel •
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BIOLOGICAL SUPPLIES

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BIOLOGICAL EQUIPMENT

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**Everything you need
for Microbiology can
be found in our
equipment section**



“For goods tomorrow - contact Timstar today”

LIVING ZOOLOGICAL SPECIMENS

PROTOZOA Supplied in 30ml tubes.

BL80000	Amoeba proteus
BL80005	Colpidium striatum
BL80010	Euglena gracilis
BL80015	Euglena spirogyra
BL80020	Paramecium caudatum
BL80025	Paramecium aurelia
BL80030	Paramecium busaria
BL80035	Podophyra (discophyra)
BL80040	Protozoa mixed
BL80045	Spirostomum ambiguum
BL80050	Stentor coeruleus
BL80055	Vorticella

PROTOZOA KIT

Dried viable cysts of mixed freshwater protozoa which can be stored dry for years and when rehydrated come back to life in 12-24 hours. The culture comes with a vial of sterile water to reactivate them back to life and a booklet with teaching notes and pictures of species included. Ideal not only for curricula classes but for student projects 'open days' demonstrations and as an 'off the shelf' standby for emergency practicals.

BL80060

COELENTERATA

BL80070	Hydra fusca (brown)
BL80075	Hydra viridis (green)
BL80080	Hydra sp.

PLATYHELMINTHES

BL80090	Planarians
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ANNELIDA

BL80100	Lumbricus terrestris (Earthworm)
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NEMATODA

BL80106	Anguilla aceti (Vinegar Eel)
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ARTHROPODA

BL80108	Achete domestica (House Cricket)
BL80120	Calliphora (Blowfly) Larvae
BL80125	Carausius morosus (Stick Insect)
BL80130	Daphnia (Water Flea)
BL80140	Periplaneta Americana (Cockroach)
BL80150	Tenebrio molitor, larvae (Mealworm)
BL80155	Woodlice (Mixed Species)

BRINE SHRIMP CULTURE KIT

Grow Brine shrimps from eggs to adults by feeding them on dried natural planktonic algae. The kit comes with sea salt, viable eggs, algal food and simple instructions

BL80156	Brine Shrimp Kit
BL80157	Brine Shrimp eggs (Artemia)

LOCUSTS (*Schistocerca gregaria*)

BL80185	Adults
BL80190	4/5th. Instar Hoppers
BL80195	2/3rd. Instar Hoppers
BL80197	5th. Instar Male Hoppers

Drosophila melanogaster (Fruit Fly)

BL80200/a	Wild Type
BL80205/a	Yellow Body
BL80215/a	White Eye
BL80240/a	Vestigial Wing
BL80255/a	Ebony Body
BL80260/a	Scarlet Eye
BL80266/a	Ebony/Vestigial

Drosophila, Virgin Females.

When ordering please alter suffix /a for /b.

Drosophila, Males

When ordering please alter suffix /a for /c.

BL80280	Drosophila ready prepared media
BL80281	Drosophila quick mix medium
BL80282	Foam Bungs

WHEN ORDERING Drosophila, Virgin Females, to avoid disappointment please give up to 21 days notice.

BL80290	Tribolium confusum
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TRIOPS - "FROM THE AGE OF THE DINOSAURS."

The Triops come to you in a state of suspended animation, these nearly hatched eggs remain like this for years or until you bring them back to life by adding distilled or spring water. Triops have a lifespan of 20 to 90 days and grow quickly to their adult length of one to three inches, depending on the amount of light and food. Each packet comes complete with eggs, food and instructions.

BL80295



VERTEBRATA

BL80300	Rana temporaria (Frog)
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MOLLUSCA

BL80375	Helix aspersa
BL80380	Limnea (Water Snail)
BL80385	Planorbis (Ramshorn Snail)

MAMMALIA

BL80415	Mus musculus (Mouse, Albino) *
BL80416	Mus musculus - Freshly killed *
BL80430	Rattus rattus (Rat, Albino) *
BL80431	Rattus rattus - Freshly killed *

* Please give 14 days notice — only available in the Timstar Van Delivery Area — Please contact our sales department for details.

N.B. FOR PRESERVED AND FROZEN RATS & MICE, see Page 219



ANIMAL FEED

RATS, MICE, GERBILS ETC.

- AN00399 Standard Diet
- AN04000 Standard Diet

FISH FOOD See Page 5

LIVING BOTANICAL SPECIMENS

ALGAE - Supplied in 30ml tubes

- BL80500 Anabaena sp.
- BL80505 Oscillatoria sp.
- BL80510 Chlamydomonas sp.
- BL80515 Chlorella sp.
- BL80518 Dunaliella salina
- BL80520 Gonium sp.
- BL80522 Haematococcus lacustris
- BL80525 Oedogonium Female
- BL80530 Oedogonium Male
- BL80535 Pandorina sp.
- BL80540 Spirogyra varians
- BL80545 Vaucheria sp.
- BL80550 Volvox globator
- BL80555 Zygnema sp.
- BL80560 Mixed Algae

Scenedesmus quadricaudus

A 50 ml concentrated culture of this Planktonic algae recommended for oxygen generation experiments.

BL80562

AQUATIC PLANTS

- BL80605 Elodea (Canadian Pondweed)
- BL80615 Lemna minor (Duckweed)

SEEDS FOR GERMINATION

WARNING:- Some seeds may be chemically treated with an anti-fungicide. Please wash before use. In case of contact with skin, please rinse with plenty of water.

- BL80700 Barley
- BL80705 Bean, Broad
- BL80710 Bean, Dwarf
- BL80715 Bean, Runner
- BL80725 Clover
- BL80730 Cress
- BL80745 Maize
- BL80755 Mung bean
- BL80760 Mustard
- BL80765 Oats
- BL80775 Pea
- BL80778 Radish
- BL80780 Sunflower
- BL80785 Wheat



GENETIC CORN

Genetic Corn Set. For demonstrating one and two factor crosses with aleurone colour (R) and endosperm character (Su). Set of four unmounted whole cobs.

BL80882



GENETIC CORN DEMONSTRATION MOUNTS.

Selected portion of parent cobs, F1 and F2 in a display box with removable lid.

Monohybrid Cross.

Purple and yellow are used to give a 3:1 ratio in the F2.

BL80884

Monohybrid Test Cross

Purple and yellow are crossed and the F1 is then crossed with the yellow (recessive) parent.

BL80885

Dihybrid Cross

Purple smooth and yellow wrinkled are used to give 9:3:3:1 ratios in the F2.

BL80886

MICROBIOLOGY

All bacteria is sold at customers own risk. No responsibility will be taken for any accidents resulting from the misuse of these cultures.



BACTERIA

- BL80890 Acetobacter aceti
- BL80892 Agrobacterium tumefaciens
- BL80894 Bacillus megaterium
- BL80900 Bacillus subtilis
- BL80905 Chromobacterium lividium
- BL80908 Erwinia carotovora
- BL80910 Escherichia coli K12 strain
- BL80912 Escherichia coli B strain
- BL80915 Lactobacillus bulgaricus
- BL80916 Lactobacillus casei
- BL80917 Micrococcus luteus (Sarcina lutea)
- BL80918 Photobacterium phosphorum
- BL80920 Pseudomonas fluorescens
- BL80922 Rhizobium leguminosarium
- BL80924 Rhizobium trifoli
- BL80930 Staphylococcus epidermidis (albus)
- BL80932 Streptomyces griseus
- BL80935 Streptococcus lactis
- BL80938 Vibrio natriegens

FUNGI

BL80940	Aspergillus niger
BL80941	Aspergillus oryzae
BL80942	Aspergillus versicolor
BL80943	Botrytis cinerea
BL80944	Coprinus cinereus
BL80946	Dictyostelium discoideum
BL80947	Eurotium repens
BL80948	Fusarium graminearum
BL80949	Fusarium solani
BL80952	Monilinia fructigena
BL80954	Mucor hiemalis +ve
BL80955	Mucor hiemalis -ve
BL80957	Neurospora crassa +ve
BL80958	Penicillium expansum
BL80960	Penicillium roqueforti
BL80961	Phycomyces blakesleeanus
BL80962	Physarum polycephalum
BL80963	Phytophthora infestans
BL80964	Pythium debaryanum
BL80966	Pythium middletonii
BL80970	Rhizopus sexualis
BL80975	Rhizopus stolonifer
BL80980	Saccharomyces cerevisiae
BL80981	Saccharomyces cerevisiae ellipsoideus
BL80982	Schizosaccharomyces octosporus
BL80983	Schizosaccharomyces pombe
BL80985	Sordaria fimicola — black
BL80990	Sordaria fimicola — white
BL80995	Trichoderma viride

ANTI-BIOTIC TEST DISCS

(Store in Refrigerator)

MULTI-TEST DISCS (Mast rings) Sterile paper ring with eight tips each being impregnated with a different antibiotic identified by a colour code.

BL81000	Mast rings
BL81001	Mast rings

SENSITIVITY DISCS

Packed in cartridges of 50 discs.

BL81010	Penicillin discs 1.5 units
BL81012	Penicillin discs 5 units
BL81015	Penicillin discs 10 units
BL81020	Streptomycin discs 25µg
BL81022	Ejector for use with individual Cartridges



CULTURE MEDIA

CULTURE MEDIA — DRY

AGAR BACTERIOLOGICAL No. 3
CM68000
CM68060

Agar Fine powder — see AG1092/4 in Chemical Section

BEEF EXTRACT (Lab Lemco)
CM68100

BLOOD AGAR BASE

CM68180
CM68190

CHINA BLUE LACTOSE AGAR

CM68200

CORNMEAL AGAR

CM68220

CZAPEK DOX AGAR

CM68240

MacCONKEY'S AGAR

CM68260
CM68280

MacCONKEY'S BROTH

CM68320

MacCONKEY'S BROTH PURPLE

CM68380
CM68400

MALT EXTRACT AGAR

CM68460
CM68462

MALT EXTRACT BROTH

CM68470

MILK AGAR

CM68480

M.R.S. AGAR

CM68490



NUTRIENT AGAR

CM68500
CM68520
CM68560
CM68580

NUTRIENT BROTH

CM68590
CM68595

NUTRIENT BROTH No. 2

CM68600
CM68620

PEPTONE BACTERIOLOGICAL

CM68640

POTATO DEXTROSE AGAR

CM68660

SABOURAUD DEXTROSE AGAR

M68720

TRYPTONE SOYA AGAR

CM68770

YEAST EXTRACT AGAR

CM68820

YEAST EXTRACT

CM68840

CULTURE MEDIA — READY PREPARED

Supplied ready for use either in petri dishes 90mm dia or slopes in 30ml universal bottles.

MALT EXTRACT AGAR

- CM69000** In petri dishes
CM69006 In universal bottles

NUTRIENT AGAR

- CM69050** In petri dishes
CM69056 In universal bottles

TRYPTONE SOYA AGAR

- CM69100** In petri dishes
CM69106 In universal bottles

TEST STRIPS — BIOCHEMICAL

- TS7200** Albustix, strips for protein tests
TS7204 Clinistix, strips for glucose test
TS7206 Diastix, strips for glucose tests
TS7208 Haemastix, strips of blood tests
TS7212 Ketostix, strips for ketone test
TS7216 Labstix, strips for nitrite, blood, ketones, glucose, protein, pH tests
TS7220 Uristix, strips for protein and glucose tests



PRESERVED ZOOLOGICAL SPECIMENS

PROTOZOA

- BP81100** Amoeba
BP81105 Euglena
BP81115 Paramecium

COELENTERATA

- BP81150** Actinia equina
BP81160 Aurelia aurita
BP81175 Hydra

PLATYHELMINTHES

- BP81225** Moniezia expansa
BP81230 Moniezia segments
BP81235 Planarians (flattened)

NEMATODA

- BP81242** Ascaris lumbricoides

ANNELIDA

- BP81275** Lumbricus (Earthworm)
BP81280 Nereis diversicolor (Rag Worm)

ANTHROPODA

- BP81315** Aranea sp. (Spiders)
BP81320 Asellus (Freshwater Louse)
BP81325 Astacus (Crayfish)
BP81355 Centipede
BP81370 Gammarus
BP81390 Millipede
BP81400 Oniscus (Wood Louse)

INSECTA

- BP81450** Apis mellifica, larvae
BP81455 Apis mellifica, pupae
BP81460 Apis mellifica, workers
BP81465 Apis mellifica, drones
BP81470 Apis mellifica, queens
BP81585 Periplaneta americana (Cockroach)
BP81600 Locust, Adult
BP81635 Pieris brassicae, larvae
BP81640 Pieris brassicae, pupae
BP81645 Pieris brassicae, imago

MOLLUSCA

- BP81700** Anodonta
BP81730 Helix aspersa (Garden Snail)
BP81760 Mytilus edulis (Mussel)

PISCES

- BP81910** Gasterosteus (Stickleback)
BP81935 Scyliorhinus canicula (Dogfish) without tail
BP81945 Scyliorhinus Head only
BP81950 Scyliorhinus with Tail

AMPHIBIA

- BP82000** Bufo bufo (Toad)
BP82005 Rana temporaria (Frog)
BP82040 Triton (Newt)

MAMMALIA

- BP82105** Mus musculus (Mouse) embalmed
BP82106 Mus musculus (Mouse) formalin free
BP82107 Mus musculus (Mouse) frozen
BP82120 Rattus rattus (Albino) embalmed
BP82122 Rattus rattus, formalin free
BP82125 Rattus rattus (Albino) deep frozen
BP82146 Pig eyes
BP82150 Sheeps hearts
BP82155 Sheeps kidney



LATEX INJECTION KIT

A kit containing the materials needed to produce three colour injections of the vascular systems of animals.

BK88150	Latex Injection Kit	.
BK88155	Spare White Latex	.
BK88157	Spare Pigments (Red, Blue, Yellow)	.

ODOURLESS PRESERVING FLUID

PROPYLENE PHENOXETOL is widely used as 1% aqueous solution for the preservation of animal specimens. A 1% solution is easily prepared by dissolving in hot water whilst stirring and then cooling for use. This is not a fixative and usually samples should be prefixed in Formalin before immersion in Propylene phenoxetol solution.

Aqueous solutions of Propylene phenoxetol are colourless, practically odourless and non-volatile. Colour retention of specimens is good and tissues remain soft, flexible and suitable for dissection.

BP82170	Propylene phenoxetol
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PLASTIC EMBEDDED SPECIMENS

A range of selected specimens permanently embedded in a durable, hardened, synthetic resin..

PE82172	Liver Fluke (Fasciola)	.
PE82174	Roundworm (Ascaris)	.
	Male and Female	.
PE82176	Crayfish (Astacus)	.
PE82178	Centipede	.
PE82180	Locust (Schistocerca)	.
PE82182	Millipede (Julies)	.
PE82184	Spider (Aranea)	.
PE82186	Scorpion (Plamnaeus)	.
PE82188	Sea Urchin (Echinus)	.
PE82190	Starfish (Asterias)	.
PE82192	Frog (Rana)	.



PRESERVED BOTANICAL SPECIMENS

ALGAE

BP82225	Diatoms mixed
BP82246	Fucus sp
BP82300	Spirogyra
BP82305	Spirogyra conjugation & zygospores

HEPATICAE

BP82336	Marchantia mixed
BP82356	Pellia mixed

MUSCI

BP82370	Funaria sporogonia
BP82376	Mnium mixed

FILICALES

BP82420	Dryopteris fertile frond
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ANGIOSPERMAE - MONOCOTYLEDONS

BP82565	Zea mais (Maize) root
BP82595	Zea Mais (Maize) stem
BP82620	Zea mais (Maize) leaves

ANGIOSPERMAE - DICOTYLEDONS

BP82640	Helianthus (Sunflower) roots
BP82650	Ranunculus (Buttercup) roots
BP82690	Cucurbita (Marrow) Stems
BP82705	Helianthus (Sunflower) Stems
BP82725	Lamium (Dead Nettle) Stems
BP82735	Ranunculus (Buttercup) Stems

MICROSLIDE SYSTEMS

The Microslide System combines superb photo - micrographs with detailed curriculum material and reproducible student activity sheets. It is fully compatible with Bioviewers and Biosets.

MICROSLIDE VIEWER.

A tough plastic viewer with two focusing knobs and a white reflector assuring a bright clear image in the normal light of the classroom. No additional light or power is required

MS88800



MICROSLIDE LESSON SETS

Each set comprises of a slide strip and a detailed lesson plan Supplied in packs of 5 identical lessons.

Human Anatomy and Health

MS88810	Cells of your body
MS88812	Harmful Bacteria
MS88814	Animal Tissues - Epithelium, Cartilage
MS88816	Animal Tissues - Muscle, Bone, Connective
MS88818	Excretion
MS88820	Skin
MS88822	Reproduction (Human)
MS88824	The Digestive System
MS88826	The Circulatory System
MS88828	The Central Nervous System
MS88830	The Endocrine System
MS88832	The Respiratory System
MS88834	Smoking and Health
MS88836	Animal Parasites of Man
MS88838	Chromosomes and genes in action
MS88840	Air Pollution and Human Health
MS88842	Human Blood
MS88844	The Virus
MS88846	The Senses
MS88848	Body defences against infection
MS88850	Drug Abuse
MS88852	Nerve and Muscle Action
MS88854	The Skeletal System
MS88856	AIDS
MS88858	The Cell Nucleus
MS88860	Basic Human Histology



General Biology:-

MS88870	Cells Structure
MS88872	Measurement
MS88874	The Five Kingdoms of life
MS88876	Ultra Structure of Animal Cells
MS88878	Pond Life
MS88880	More Biology
MS88882	Transport in Plants and Animals
MS88884	Chick Embryo
MS88886	Insects Parts
MS88888	Animal Mitosis
MS88890	The Hydra
MS88892	The Animal Kingdom

Botany:-

MS88900	Cells of plants
MS88902	Plant Mitosis
MS88904	Photosynthesis
MS88906	The Root of a Flowering Plant
MS88908	The Stem of a Flowering Plant
MS88910	The Leaf of a Flowering Plant
MS88912	The Flower of a Flowering Plant
MS88914	Monocots and Dicots

PREPARED MICROSCOPE SLIDES

BASIC SETS

BEGINNERS SLIDE SET

A set of 12 slides selected for their suitability for young and inexperienced microscopists. Ideal for stimulating interest in the examination of specimens and in the use of the microscope.

Housefly wing	Cork Section
Housefly Leg	Cotton Material
Butterfly Wing Scales	Paper Fibres
Hydra	Waterflea
Water Organisms	Twig section
Onion Skin	Letter 'e'

PM83000

BASIC GCSE SLIDE SET

A set of microscope slides created especially to meet the requirements of examinations. The set is applicable to all versions of the GCSE Biology syllabus. It is especially suitable for use with D.G. Mackean's textbook 'GCSE Biology'. The set comprises of 25 slides:

Human blood smear	Pancreas
Squamous epithelium (cheek cells)	Yeast, E
Artery and vein, TS	Mucor, asexual
Kidney, TS	Dicot, stem apex, LS
Kidney, VS, injected	Stem, TS, separate bundles
Lung, VS, injected	Stem, LS, old
Lung, VS through bronchiole	Monocot (Zea), root, TS
Sweat glands	Allium, root tip, LS, mitosis
Hair insertion	Allium, root tip, squash
Ovary, VS	Leaf, TS
Testis, TS	Leaf, epidermis, E
Spinal cord, TS	Moss leaf, for cells
	Lily anther, tetrads

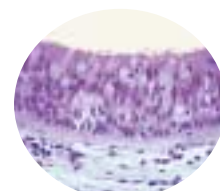
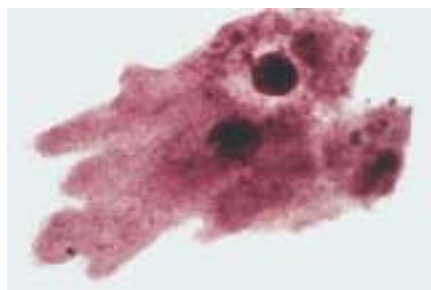
PM83005



GCSE TEXTILES (FIBRES/FABRICS) SLIDE SET

Cotton fibre	Polyester fibre
Cotton fabric	Polyester fabric
Linen fibre	Nylon fibre
Linen fabric	Nylon fabric
Wool, natural	Yak hair
Wool, processed	Silk

PM83010



GCSE FOOD SCIENCE SLIDE SET

Meat (Muscle LS uncooked)
 Meat (Muscle LS cooked)
 Areolar, showing collagen and elastic fibres
 Adipose tissue, TS
 Fish (Cod uncooked)
 Fish (Cod cooked)
 Fish skin, VS (Herring)
 Bacteria, Cocci etc
 Yeast (Saccharomyces)
 Mucor, asexual

Aspergillus
 Penicilium
 Psalliota (Mushroom), VS
 Potato (Solanum), cooked
 Potato, uncooked, shows starch
 Onion, skin for cells
 Carrot, TS
 Wholemeal flour, E
 White flour, E
 Starch grains, E

PM83015

BASIC BIOLOGY SLIDE SET

This set includes some of the most important slides for any biology course.

Amoeba, E
 Euglena, E
 Hydra, with bud, E
 Fasciola (Liver fluke), E
 Human blood film
 Artery and vein, TS
 Lung, VS
 Ileum, TS
 Testis, TS
 Ovary, TS
 Spirogyra, E
 Mucor; conjugation, E
 Marchantia (Liverwort) developed sporogonium
 Marchantia, thallus, antheridia, VS

Marchantia, thallus, archegonia, VS
 Mnium (Moss), antheridia, VS
 Mnium, archegonia, VS
 Dryopteris (Fern), prothallus, E
 Allium (Onion), root apex, LS
 Zea (Maize), root, TS
 Cucurbita, stem, LS
 Helianthus (Sunflower), root, TS
 Helianthus, leaf, TS
 Helianthus, stem TS
 Zea, stem, TS

PM83020



PROTOZOA AND ALGAE SLIDE SET

A set of slides covering all the commonly studied protozoa and freshwater algae. The set comprises of 20 slides.

Amoeba, E
 Mixed Foraminifera
 Mixed Radiolaria
 Euglena, E
 Trypanosoma, in blood smear
 Plasmodium sp (Malaria), in blood smear
 Paramecium, E
 Paramecium, conjugating, E
 Paramecium, fission, E
 Diatoms, mixed species, E
 Vorticella, E

Chlamydomonas, E
 Pandorina, E
 Volvox, with daughter colonies, E
 Nostoc, filaments with heterocysts, E
 Cladophora, E
 Chlorella, E
 Desmids, mixed species, E
 Spirogyra, vegetative filaments, E
 Spirogyra, conjugation, E

PM83025

CELL DIVISION SLIDE SET

A set of slides covering all aspects of chromosome division using both animal and plant examples. 9 slides.

Mammal testis, TS, showing spermatogenesis
 Locusta, testis squash showing meiosis
 Locusta, testis, VS
 Insect salivary gland squash, acetic orcein, for giant chromosomes

Allium, root tip, squash preparation
 Allium, root apex, LS, mitosis
 Lilium, anther, three stages of development, TS
 Lilium, ovary, meiosis
 Rana, ova, various stages, TS

PM83028

BASIC HISTOLOGY SLIDE SET

This set serves as an introduction to histology and illustrates the major tissue types. The set comprises of 25 slides.

Human blood, thin film
 Stratified squamous epithelium, oesophagus, TS
 Skin, showing hair insertion and sebaceous glands, VS
 Lung, TS, connective tissue stain
 Stomach wall, fundic, VS
 Duodenum, TS, showing Brunner's glands
 Ileum, TS, showing villi and goblet cells
 Striated muscle, LS, showing striations and nuclei
 Non-striated (involuntary) muscle, E
 Cardiac muscle, LS for nuclei, striations and intercalated discs
 Spinal cord, TS

Myelinated nerve, teased
 Cerebellum, VLS
 Artery and vein, TS stained to show elastic fibres, collagen and tunica
 Columnar epithelium, TS
 Pseudostratified ciliated columnar epithelium, TS
 Areolar tissue, E, stained for fibres and cells
 Adipose tissue, section
 Compact bone, TS, for Haversian canals and lamellae
 Liver, TS
 Pancreas, TS showing islets of Langerhans
 Kidney, TS
 Testis, TS, for spermatogenesis
 Ovary, TS, showing follicles
 Eye, entire, VS

PM83030

HUMAN HISTOLOGY SLIDE SET

Containing 25 slides

Cerebellum, section
 Spinal cord, section
 Nerve, TS and LS
 Artery and vein, TS
 Cardiac muscle, section
 Lymph node, section
 Spleen section
 Scalp, VS
 Skin, heavily pigmented section,
 Cervix, section
 Testis, section
 Thyroid gland, section
 Stomach, fundic portion, section

Ileum section
 Duodenum, section
 Appendix, section
 Colon, section
 Pancreas, section
 Liver, section
 Kidney, section
 Ovary, section
 Uterus, section
 Striated muscle, section
 Mammary gland, section
 Oesophagus, section

PM83035



BASIC ZOOLOGY SLIDE SET

This set includes important slides taken from the whole range of the animal kingdom. 25 slides.

Amoeba, E
 Euglena, E
 Paramecium, E
 Hydra, extended, E
 Hydra, body wall, TS
 Hydra, body wall, LS
 Sycon, colony, TS
 Planarian, TS
 Fasciola (Liver fluke), E
 Taenia (Tapeworm), scolex, LS
 Taenia, mature proglottid, E
 Ascaris (Roundworm), TS female
 Ascaris, TS male
 Rana testis, for spermatogenesis
 Mus (Mouse) embryo, TS body

Lumbricus, LS reproductive region
 Periplaneta (Cockroach), head, E
 Periplaneta, trachea, E
 Pediculus (Louse), male, E
 Pieris (Butterfly), imago proboscis, E
 Musca (Housefly), imago, proboscis, E
 Amphioxus, young, E
 Scyliorhinus (Dogfish), skin with placoid scales, VS
 Rana (Frog), ovary, TS
 Lumbricus (Earthworm), TS typhlosole

PM83040

BACTERIA SLIDE SET

12 slides.

Mixed bacteria, bacilli cocci and spirillum	Mycobacterium tuberculosis, in tissue
Cocci, Gram positive and negative	Rhizobium, in root nodule
Bacilli, Gram positive and negative	Vibrio
Escherichia coli	Spirillum
Bacillus subtilis	Staphylococcus epidermidis
Bacillus megaterium	Streptococcus lactis

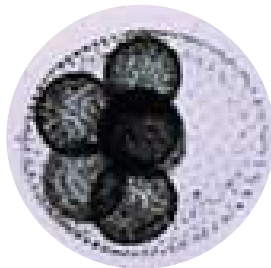
PM83060

BASIC BOTANY SLIDE SET

An introductory set of botanical specimens representing the major plant groups. 25 slides.

Chlamydomonas, E	Dryopteris, pinnule with sori, TS
Spirogyra, vegetative, E	Allium (Onion), root apex, LS, mitosis
Spirogyra, conjugation, E	Zea (Maize), root, TS
Fucus, dioecious antheridial & oogonial conceptacles	Helianthus (Sunflower), young root, TS
Mucor, conjugation	Zea, stem, TS
Saccharomyces (Yeast), budding	Cucurbita (Marrow), stem, LS, for sieve tubes
Penicillium, mycelium & conidia	Helianthus, stem, TS
Marchantia (Liverwort), thallus, antheridia, VS	Tilia (Lime), young & old stems, TS
Marchantia thallus, archegonia VS	Pinus (Pine), leaf, TS
Marchantia, developing sporogonium, VS	Prunus (Cherry), leaf, TS
Mnium (Moss), antheridial head, VS	Ranunculus (Buttercup), flower bud, LS
Mnium, archegonial head, VS	Pollen grains, wind and insect distribution, E
Dryopteris (Fern), prothallus with antheridia & archegonia, E	

PM83065



BASIC PLANT ANATOMY SLIDE SET

An introductory set covering the major aspects of vascular plant structure. 20 slides.

Helianthus (Sunflower), young and old root, TS	Monocot, epidermis, E, for stomata
Vicia, (Bean), young root, TS	Psamma (Marram grass), leaf, TS
Vicia, root apex, LS	Prunus (Cherry), leaf, TS
Zea (Maize), stem, TS & LS	Lilium, anther, TS
Cucurbita (Marrow), stem TS & LS	Lilium, ovary, TS & LS
Helianthus, stem, bundles, TS	Lilium, ovary, various stages, TS
Helianthus, old stem, TS & LS	Capsella, mature cotyledon stage, LS
Tilia (Lime), young & old stem, TS	Stigma with pollen tube
Tilia, old stem, RLS	Pollen grains
Dicot, stem, apex, LS	Zea, seed, LS

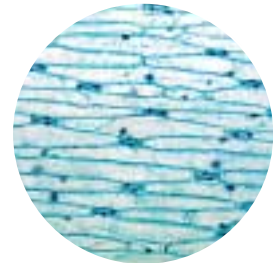
PM83070

TIMBER SECTIONS SLIDE SET

The set includes slides of 12 common timbers. On each slide is a transverse, a tangential longitudinal and a radial longitudinal section of the timber. The three sections are stained and mounted side by side under a single cover glass.

Larix decidua (European Larch)	Betula sp. (Birch)
Pinus sylvestris (Scots Pine)	Fagus sylvatica (Beech)
Fraxinus excelsior (English Ash)	Pseudotsuga taxifolia (Douglas Fir)
Khaya ivorensis (African Mahogany)	Acer pseudoplatanus (Sycamore)
Quercus robur (English Oak)	Tilia vulgaris (Lime)
Thuja plicata (Western Red Cedar)	
Tectona grandis (Teak)	

PM83080



SINGLE SLIDES — ZOOLOGY

PROTOZOA

PM86000	Amoeba 'E'
PM86005	Euglena 'E'
PM86010	Paramecium, E'
PM86015	Paramecium, showing fission
PM86020	Mixed Protozoa

COELENTERATA

PM86050	Aurelia, tentacle fringe 'E'
PM86055	Hydra 'E'
PM86060	Hydra and Bud 'E'
PM86065	Obelia Hydroid 'E'
PM86070	Obelia Medusaria 'E'

PLATYHELMINTHES

PM86100	Fasciola TS
PM86105	Planarian WM
PM86110	Planarian TS through pharynx
PM86115	Taenia (Tapeworm), scolex 'E'

NEMATODA

PM86130	Ascaris (Roundworm) TS triradiate oesophagus
PM86135	Ascaris Male and Female TS

ANELIDA

PM86150	Nereis TS through parapodium
PM86155	Lumbricus TS typhlosole
PM86160	Lumbricus TS showing insertion of setae

ARTHROPODA

- PM86200** Daphnia 'E'
PM86205 Mite 'E'
PM86210 Periplaneta trachea 'E'
PM86215 Locust Embryo, section showing mitosis
PM86220 Locust, testis squash showing meiosis
PM86225 Culex Imago, head and mouth organs female 'E'
PM86230 Anopheles Imago head and mouth organs, female 'E'
PM86235 Insect, salivary gland, squash acetic orcein for giant chromosomes
PM86240 Apis, 3 legs 'E'

SINGLE SLIDES — HISTOLOGY

BLOOD

- PM86300** Human Blood Smear
PM86305 Amphibian (Frog) Blood Smear

CELL CONTENTS

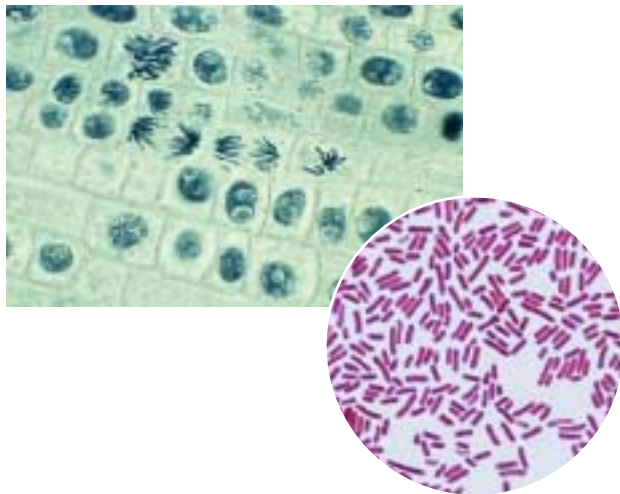
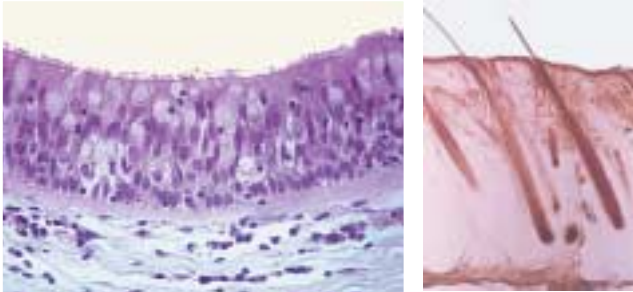
- PM86320** Chromosomes, Human Male
PM86325 Chromosomes, Human Female
PM86330 Mitochondria in Kidney TS

EPITHELIUM

- PM86350** Squamous Epithelium from human mouth
PM86355 Ciliated Epithelium 'E' from rat trachea
PM86360 Stratified Squamous Epithelium, oesophagus

CONNECTIVE TISSUE

- PM86380** Areolar Connective Tissue
PM86385 Adipose Tissue, Section
PM86390 White Fibrous, Tendon LS



CARTILAGE

- PM86400** Hyaline Cartilage VS
PM86405 White Fibro LS Intervertebral disc

BONE

- PM86420** Bone Compact TS
PM86425 Bone Compact LS
PM86430 Bone Ossification, Intramembranous, LS foetal long bone
PM86435 Bone Articulation VS joint

MUSCLE

- PM86450** Muscle Striated LS
PM86455 Muscle Striated LS Human
PM86460 Muscle Striated TS
PM86465 Muscle Non-Striated LS
PM86470 Muscle Cardiac LS

NERVOUS TISSUE

- PM86500** Spinal Cord TS
PM86505 Spinal Cord TS Human
PM86510 Sciatic Nerve TS showing myelinated and non-myelinated nerves
PM86515 Sciatic Nerve LS
PM86520 Nerve Cells, Isolated
PM86525 Motor Nerve Ending
PM86530 Cerebellum VS
PM86535 Cerebrum VS



CIRCULATORY

- PM86550** Artery and Vein TS
PM86555 Artery, Vein and Nerve TS
PM86560 Aorta TS Human
PM86565 Vein TS Human
PM86570 Lung, injected thick section
PM86575 Liver, injected thick section
PM86580 Kidney, injected thick section

GLANDS

- PM86600** Spleen TS Human
PM86605 Salivary Gland TS Human
PM86610 Adrenal Gland TS Human
PM86615 Pituitary TS
PM86620 Thymus TS
PM86625 Thyroid TS

SKIN

- PM86640** Skin VS Hair Insertion, Human
PM86645 Skin VS showing sweat glands

RESPIRATORY

- PM86660** Trachea TS showing ciliated epithelium and cartilage rings
PM86665 Trachea TS Human
PM86670 Lung TS
PM86675 Lung TS Human



DIGESTIVE

- PM86700** Tooth in situ VS
PM86705 Oesophagus TS
PM86710 Stomach TS
PM86715 Stomach VS Human
PM86720 Ileum TS Human
PM86725 Colon TS Human
PM86730 Small Intestine TS
PM86735 Large Intestine TS
PM86740 Appendix TS
PM86745 Liver TS
PM86750 Pancreas TS showing islets of Langerhans
PM86755 Duodenum TS

UROGENITAL

PM86760	Kidney TS
PM86765	Kidney VS Human
PM86770	Kidney entire LS
PM86775	Testis TS
PM86780	Testis TS Human
PM86785	Spermatozoa Smear
PM86790	Spermatozoa Human Smear
PM86795	Ovary TS
PM86800	Ovary TS Human
PM86805	Uterus TS Human
PM86810	Placenta VS
PM86815	Umbilical Cord TS Human
PM86820	Bladder TS

BACTERIA — SINGLE SLIDES

PM86900	Mixed bacteria, bacilli, cocci and spirillum
PM86905	Cocci, Gram positive and negative
PM86910	Bacilli, Gram positive and negative
PM86915	Escherichia coli
PM86920	Bacillus subtilis
PM86925	Bacillus megaterium
PM86930	Mycobacterium tuberculosis, in tissue
PM86935	Rhizobium, in root nodule
PM86940	Vibrio
PM86945	Spirillum
PM86950	Staphylococcus epidermidis
PM86955	Streptococcus lactis

BOTANY — SINGLE SLIDES

ALGAE

PM87000	Chlamydomonas 'E'
PM87005	Pandorina 'E'
PM87010	Volvox with daughter colonies 'E'
PM87015	Oedogonium with cap cells 'E'
PM87020	Spirogyra vegetative 'E'
PM87025	Spirogyra conjugation 'E'
PM87030	Spirogyra conjugation and zygospores 'E'

FUNGI

PM87050	Mucor Sporangia 'E'
PM87055	Mucor Zygospores 'E'
PM87060	Rhizopus Conjugation & Zygospores 'E'
PM87065	Saccharomyces budding 'E'
PM87070	Corpinus, pileus and gills VS
PM87075	Pellia sporogonium VS
PM87080	Moss, protonema 'E'

PTERIDOPHYTA

PM87100	Dryopteris, prothallus with antheridia and archegonia 'E'
PM87105	Dryopteris prothallus with sporophyte 'E'
PM87110	Dryopteris pinnule with sori TS

ANGIOSPERMAE ROOTS

PM87130	Allium (Onion), root apex, mitosis LS
PM87135	Allium Root Tip squash mitosis
PM87140	Allium Root Tip LS and TS, mitosis
PM87145	Zea Root TS
PM87150	Helianthus Young Root TS
PM87155	Helianthus Old Root TS secondary thickening
PM87160	Vicia Young Root, showing root hairs TS
PM87165	Vicia Root Apex LS mitosis
PM87170	Vicia Root Apex, general structure LS
PM87175	Root Types — Dicot, monocot and cryptogam

ANGIOSPERMAE STEMS

PM87200	Cucurbita Stem TS
PM87205	Cucurbita Stem LS
PM87210	Ranunculus Stem TS
PM87215	Zea Stem TS
PM87220	Helianthus Stem TS



PM87225	Helianthus Stem, interfascicular cambium TS
PM87230	Helianthus Stem TS secondary thickening
PM87235	Lamium Stem TS
PM87240	Ribes Stem TS for phellogen
PM87245	Sambucus Stem with lenticel TS
PM87250	Stem Types — Dicot, monocot and cryptogam

ANGIOSPERMAE LEAVES

PM87280	Erica Leaf TS, typical xerophyte
PM87285	Nymphaea Floating Leaf TS
PM87290	Ligustrum Leaf TS, typical mesophyte
PM87295	Helianthus Leaf TS
PM87300	Zea Leaf TS
PM87305	Buxus Leaf Epidermis 'E'
PM87310	Prunus Leaf TS
PM87315	Potamogeton Aquatic Leaf TS
PM87320	Ammophila Leaf TS
PM87325	Monocot Leaf Epidermis for stomata
PM87330	Leaf Types — Hydrophyte, mesophyte and xerophyte TS

ANGIOSPERMAE — FLOWERS & SEEDS

PM87350	Lilium, mature anthers TS
PM87355	Lilium, young flower bud, archesporial tissue TS
PM87360	Pollen Mixed 'E'
PM87365	Triticum Seed VS

UNSTAINED SECTIONS

LOOSE SECTIONS

US85000	Zea Root TS
US85005	Zea Stem TS
US85010	Zea Leaf TS
US85015	Helianthus Root TS
US85020	Helianthus Stem TS
US85025	Helianthus Leaf TS
US85030	Cucurbita Stem TS
US85035	Cucurbita Stem LS
US85040	Lamium Stem TS
US85045	Ranunculus Stem TS

WAX SECTIONS (Mounted on Slides)

US85100	Muscle, striated LS
US85105	Lung TS
US85110	Stomach TS
US85115	Small Intestine TS
US85120	Liver TS
US85125	Kidney TS
US85130	Testis TS
US85135	Cerebellum VS

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