POLYTHENE OR POLYSTYRENE

CENTRIFUGE TUBES

We have now commenced manufacture of these in one size only—

15-ml. (nominal) Taper Type

The Polythene ones are translucent, but the Polystyrene are more rigid and completely transparent

PRICES:—

\[
\begin{align*}
X.122/Y & \text{ Polythene Centrifuge Tubes} & 15/6 \text{ doz.} \\
X.123/Y & \text{ Polystyrene Centrifuge Tubes} & 169/- \text{ gross.}
\end{align*}
\]

TOWNSON & MERCER LIMITED
CROYDON, ENGLAND

Telephone: THOrnton Heath 6262
The Journal of General Microbiology

Editors: B. C. J. G. Knight and A. F. B. Standfast

Contents of Volume 15, No. 1. August 1956

Winder, F. G. and Dennen, J. M. Phosphorus metabolism of mycobacteria: determination of phosphorus compounds in some mycobacteria.

Lindgren, C. C. and Lindgren, G. Eight genes controlling the presence or absence of carbohydrate fermentation in Saccharomyces.

Shepherd, C. J. Pathways of cysteine synthesis in Aspergillus nidulans.


Ledinko, N. An analysis of the process of adaptation of influenza virus B of recent human origin to the mouse lung.


Sneath, P. H. A. Cultural and biochemical characteristics of the genus Chromobacterium.

Sneath, P. H. A. Change from polar to peritrichous flagellation in Chromobacterium spp.


Maccacaro, G. A. and Comolli, R. Surface properties correlated with sex compatibility in Escherichia coli.

Buxton, E. W. Heterokaryosis and parasexual recombination in pathogenic strains of Fusarium oxysporum.

Furness, G. and Rowley, D. Transduction of virulence within the species Salmonella typhimurium.

Houwink, A. L. Flagella, gas vacuoles and cell wall structure in Halobacterium halobium: an electron microscope study.

Uden, N. van, Matos Faia, M. de and Assis-Lopes, L. Isolation of Candida albicans from vegetable sources.

Pollock, M. R. The cell-bound penicillinase of Bacillus cereus.

Lewin, R. A. Control of sexual activity in Chlamydomonas by light.

Postgate, J. R. Iron and the synthesis of cytochrome c₃.


Jameson, J. E. and Emberley, N. W. A substitute for bile salts in culture media.

Williams, M. A. and Rittenberg, S. C. Microcyst formation and germination in Spirillum lunalum.

Harrison, B. D. The infectivity of extracts made from leaves at intervals after inoculation with viruses.

Holloway, B. W. Self-fertility in Pseudomonas aeruginosa.

Anderson, E. S. and Fraser, A. The statistical distribution of phenotypically modifiable particles and host-range mutants in populations of Vi-phage II.

The subscription rate is 90s. net per volume of 3 parts, Single parts 35s. each, plus postage. Two volumes will be issued each year. Orders should be sent to

CAMBRIDGE UNIVERSITY PRESS
BENTLEY HOUSE, 200 EUSTON ROAD, LONDON, N.W. 1

(ii)
Sugar Phosphates

The following chemicals of English manufacture and to the specifications shown are now available:

α-D(+)-Glucose-1-phosphoric acid, dipotassium salt dihydrate

\[ \text{C}_6\text{H}_{12}\text{O}_{10}\text{PO}_4\text{K}_2\cdot2\text{H}_2\text{O} \]  Mol. wt. 372.35
Assay (ex P and K) : Not less than 95.0%
Inorganic P : Not more than 0.1% (as P)
Loss on drying : Not more than 11.0% at 105°C in vacuo
\([d]_D = 76° \text{ to } 80° (c, 5 \text{ in water}) \]  1 g—12s. 6d.

D(+)-Glucose-6-phosphoric acid, barium salt: heptahydrate

\[ \text{C}_6\text{H}_{12}\text{O}_{10}\text{PO}_4\text{Ba}7\cdot\text{H}_2\text{O} \]  Mol. wt. 521.60
Assay (ex P and Ba) : Not less than 95.0%
Inorganic P : Not more than 0.1% (as P)
Loss on drying : Not more than 12.5% at 105°C in vacuo
\([d]_D = 20° \text{ to } 22° (c, 5 \text{ in N/1 HCl}) \]  0.1 g—7s. 6d.  1 g—30s. 0d.

Also available:

D(+)-Fructose-1 : 6-diphosphoric acid, dibarium salt

0.1 g—4s. 3d.  1 g—25s. 0d.

D(+)-Fructose-6-phosphoric acid, barium salt

0.1 g—5s. 6d.  1 g—42s. 6d.

Enquiries for larger quantities are welcomed.

THE BRITISH DRUG HOUSES LTD.
B.D.H. LABORATORY CHEMICALS GROUP
POOLE  DORSET
SP/5601

NEW MSE

Super-MINOR

CENTRIFUGE

Equal maximum speed of 4500 rpm (3650 × g) for swing-out and angle heads—under any loading conditions.

One universal swing-out head and/or one universal angle head only required, carrying up to 8 × 50 ml or 16 × 15 ml tubes.

Available in addition to the famous MSE "Minor" Centrifuge, and ideal where great capacity and increased performance under swing-out conditions are required.

Ask for MSE Publication No. 201

MEASURING & SCIENTIFIC EQUIPMENT LTD., Spenser Street, London, S.W.1 - VICToria 5426
CIRCO THERM

instantly converts any container into a precision constant temperature bath or circulating system

Heater, stirrer, pump, adjustable contact thermometer and motor are combined to form a compact unit which can be clamped to any laboratory stand and is supplied complete with mercury switch relay. The built-in pump serves a two-fold purpose: it ensures an exceptionally uniform temperature through the bath; it also enables the Circotherm to be used for supplying constant temperature liquid to outside apparatus such as refractometers, viscosimeters, other baths, etc.

In suitable insulated vessels the temperature can be maintained constant within ±0.01°C.

The Circotherm represents the last word in constant temperature equipment in respect of design, versatility and all-round usefulness.

Write or telephone for leaflet with further particulars.

SHANDON

SHANDON SCIENTIFIC COMPANY LTD.
6 Cromwell Place, London, S.W.7

BIOCHEMICAL SOCIETY SYMPOSIA 13

The Biochemistry of Vitamin B₁₂

EDITED BY R. T. WILLIAMS

Papers read at a Symposium held on 19 February 1955, by:

13s. 6d. net

CAMBRIDGE UNIVERSITY PRESS
Active tracers

for Biologists and Biochemists

We are now able to supply from stock or at short notice over two hundred isotopically labelled compounds. Full catalogues or information on specific compounds will gladly be provided on request.

Some recent additions to our list are:

- Cetane-1-C\textsubscript{14}
- Chlorophyll-B-C\textsubscript{14}
- Decane-1-C\textsubscript{14}
- Decanoic acid-1-C\textsubscript{14}
- Ethanol-2-C\textsubscript{14}
- Ethyl iodide-2-C\textsubscript{14}
- Guanine-8-C\textsubscript{14}
- Hypoxanthine-8-C\textsubscript{14}
- Lauric acid-1-C\textsubscript{14}
- Lauryl alcohol-1-C\textsubscript{14}
- Linoleic acid-1-C\textsubscript{14}
- 2-(Methyl-C\textsubscript{14}) naphthalene
- 2-(Methyl-C\textsubscript{14})-1,4-naphthoquinone
- Myristic acid-1-C\textsubscript{14}
- Myristyl alcohol-1-C\textsubscript{14}
- 2-Naphthoic acid (carboxyl-C\textsubscript{14})
- Octadecane-1-C\textsubscript{14}
- Sodium \textit{\textBeta}-valerate-1-C\textsubscript{14}
- Chlorosulphonic acid-S\textsubscript{35}
- Taurine-S\textsubscript{35}
- Sodium lauryl sulphate-S\textsubscript{35}
- Lauroyl methyl tauride-S\textsubscript{35}
- L-Thyroxine-I\textsubscript{131}
- Sodium "acetriolate"-I\textsubscript{131}
- Parathion-P\textsubscript{32}
- Systox-P\textsubscript{32}
- Dimefox-P\textsubscript{32}
- Schradan-P\textsubscript{32}

THE RADIOCHEMICAL CENTRE
AMERSHAM - BUCKINGHAMSHIRE - ENGLAND

(v)
The absorption spectrum of a substance has, with good reason, been called its most revealing characteristic. A plot of absorption against wavelength can give complete analytical data accurately, rapidly, and with the minimum of effort. Hence the increasing reliance of the chemist on the spectrophotometer for research, routine analysis and control of product quality.

A full account of the range and applications of these leading instruments will be supplied by Unicam Instruments of Cambridge on request.

UNICAM
SPECTROPHOTOMETERS
JOSEPH, J. and NIGHTINGALE, A. Electromyography of muscles of posture: leg and thigh muscles in women, including the effects of high heels.

ANCILL, R. J. The blood volume of the normal guinea-pig.

HARKNESS, MARGARET L. R. and HARKNESS, R. D. The effect of pregnancy and lactation on the collagen content of the mammary gland of the rat.

HARKNESS, MARGARET L. R. and HARKNESS, R. D. Changes in the physical properties and in the collagen and hexosamine contents of the foetal membranes during pregnancy in the rat.

HARKNESS, MARGARET L. R. and HARKNESS, R. D. The distribution of the growth of collagen in the uterus of the pregnant rat.

HARKNESS, R. D. and MORALEE, BRENDA E. The time-course and route of loss of collagen from the rat’s uterus during post-partum involution.

ANDREWS, W. H. HORNER, HECKER, R. and MAEGRAITH, B. G. The action of adrenaline, noradrenaline, acetylcholine and histamine on the perfused liver of the monkey, cat and rabbit.

ANDREWS, W. H. HORNER and GLOCKLING, BERYL. Oxygen utilization of the perfused canine liver and its modification by adrenaline, acetylcholine and histamine.

TRENDELENBURG, U. Modification of transmission through the superior cervical ganglion of the cat.

EVANS, C. LOVATT, SMITH, D. F. G. and WEIL-MALHERBE, H. The relation between sweating and the catechol content of the blood in the horse.

GARRETT, W. J. Some observations on the human myometrial cycle.

HELLON, R. F., JONES, R. M., MACPHERSON, R. K. and WENER, J. S. Natural and artificial acclimatization to hot environments.

DONOVAN, B. T. and HARRIS, G. W. Adrenergic agents and the release of gonadotrophic hormone in the rabbit.

BURKE, W. and GINSBORG, B. L. The electrical properties of the slow muscle fibre membrane.

BURKE, W. and GINSBORG, B. L. The action of the neuromuscular transmitter on the slow fibre membrane.

DAWES, G. S. and VANE, J. R. The refractory period of atria isolated from mammalian hearts.

CASTILLO, J. DEL and KATZ, B. Localization of active spots within the neuromuscular junction of the frog.

LILEY, A. W. An investigation of spontaneous activity at the neuromuscular junction of the rat.

HEBB, CATHERINE and WAITES, G. M. H. Choline acetylase in anttero- and retro-grade degeneration of a cholinergic nerve.

LOWY, J. The action on Mytilus muscle of a heat-stable principle in partially purified type A botulinum toxin preparations.

EDWARDS, R. G. and LIPPOLD, O. C. J. The relation between force and integrated electrical activity in fatigued muscle.

Subscription price 80s. per volume of three parts, post free
Single parts 30s. each, postage extra

CAMBRIDGE UNIVERSITY PRESS
BENTLEY HOUSE, 200 EUSTON ROAD
LONDON, N.W.1
E.K. BOWMAN LTD.
Established 1889

61, 61A & 63 HOLMES ROAD, KENTISH TOWN
LONDON, N.W. 5
Telephone: Gulliver 1653

★

SPECIALISTS IN
ANIMAL HOUSE EQUIPMENT
CAGES & RACKING

'WELLCOME'
DIAGNOSTIC AND LABORATORY MATERIALS

- AGGLUTINABLE SUSPENSIONS
- AGGLUTINATING AND PRECIPITATING SERA
- CULTURE MEDIA
- OLD TUBERCULIN
- OPACITY TUBES
- PENICILLINASE

- REAGENTS FOR COMPLEMENT FIXATION AND FLOCCULATION TESTS

- THE 'AGLA' BRAND MICROMETER SYRINGE

- SERA FOR IDENTIFICATION OF ANAEROBES

Details and Price List on application

Obtainable from:
THE WELLCOME RESEARCH LABORATORIES
Langley Court, Beckenham, Kent. Telephone: Beckenham 3422

or from:
BURROUGHS WELLCOME & CO. (The Wellcome Foundation Ltd.) LONDON

Printed in Great Britain at the University Press, Cambridge
(Brooke Crutchley, University Printer)