Table 1. *Drop-scale iodometry with standard sodium chloride solutions*

NaCl (m-equiv./l.)			
Calc.	Found		No. of determinations
	Mean	S.D.	
598.8	600.6	9.56	6
479.2	483.0	2.31	6
359.4	352.6	7.63	6
119.8	116.3	3.66	6
47.92	45.83	2.29	6
35.94	34.95	2.76	6
23.96	23.66	5.33	6
11.98	11.93	0.53	6

Table 2. *Drop-scale Volhard estimations with standard sodium chloride solutions*

NaCl (m-equiv./l.)			
Calc.	Found		No. of determinations
	Mean	S.D.	
513.2	501.7	4.87	10
342.7	340.7	8.88	14
279.7	276.4	2.86	12
273.7	285.9	4.32	10
171.1	168.3	6.75	15
139.9	137.6	3.91	12
136.9	143.1	2.84	10
85.55	83.71	8.64	16
69.95	65.21	7.39	16

silver iodate. Further, the minimal (final) concentrations of chloride which react with silver iodate are different in the two methods. In Sendroy's, it is

0.1 M (according to Judah, 1949); and in the present method, 0.0005 M (Table 1).

From a comparison of the figures in Tables 1 and 2 and from the serum chloride values by the two methods, it is seen that the present method and that of Wigglesworth are about equally accurate. Nevertheless, the iodometric procedure would appear

Table 3. *Recovery of sodium chloride added to serum*

(Drop-scale iodometry.)			
NaCl (m-equiv./l.)		NaCl (m-equiv./l.)	
Added	Recovered	Added	Recovered
299.4	285.2	59.88	60.54
239.6	228.3	29.94	31.96
179.7	175.3	23.96	24.88
119.8	122.7	17.97	17.82

to be more convenient for at least two reasons. It is less time consuming, and there is a sharp end point over a wider range of chloride concentrations.

SUMMARY

An adaptation of the Van Slyke and Hiller method has been described for the ultramicro determination of chloride.

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Improved Manometric Fluid

By H. A. KREBS

*Medical Research Council Unit for Research in Cell Metabolism,
 Department of Biochemistry, University of Sheffield*

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The manometric fluid in common use in Warburg manometers (Brodie, 1910; Warburg, 1912) contains bile salts to facilitate the free flow of the fluid in the capillary. Many of the wetting agents which have become available in recent years are much more effective than bile salts, and it is therefore possible to design an improved manometric fluid. In testing a series of detergents it was found that some compounds, e.g. alkyl sulphates and cetyltrimethyl-

ammonium bromide, are liable to form a stable froth, and for this reason are not suitable for use in manometer fluids. Suitable substances were found among the non-ionic detergents, in particular among those arising by condensation of alkyl phenols with ethylene oxide, of the following general structure

Lissapol N (Imperial Chemical Industries Ltd., Blackley, Manchester), Stergene (Domestos Ltd., Newcastle-upon-Tyne) and Triton X-100 or Triton A-20 (Rohm & Haas Co., Philadelphia, Pa.) belong to this group of 'alkylarylpolyoxyethanols'.

The following fluid, which has a specific gravity of 1.033 at 20°, is recommended.

Sodium bromide (anhydrous)	44 g.
Stergene (or Lissapol N)	1 g.
Evans blue	0.3 g.
Water	to 1000 ml.

If filtration is required, sintered-glass funnels should be used as filter paper removes some of the dye by adsorption.

Sodium bromide is used in preference to sodium chloride or potassium chloride because the detergent solution gradually develops a turbidity (not visible in the presence of the dye) on addition of the chlorides, and precipitates are formed on storage in mixtures of detergent, alkali chloride (especially potassium chloride) and Evans blue. Sodium bromide is free from this disadvantage. Commercial sodium bromide usually contains moisture and should be dried at 105–110° before weighing. The figure given for Stergene and Lissapol N refers to the

commercially available syrupy liquid which contains about 70 % water. As Triton X-100 and Triton A-20 are practically water-free, 0.3 g. of either of these detergents is equivalent to 1 g. of the other two. Evans blue, widely used for blood volume determinations (Dawson, Evans & Whipple, 1920), and first recommended for manometer fluids by Bain (1945), has proved more stable than other dyes tested. It is not taken up by the rubber or plastic reservoirs.

The new fluid has a much greater cleansing power than Brodie's solution. It keeps better than the older fluid which sometimes becomes viscous on storage owing to changes in the bile salts. Froth and bubbles formed in the manometer capillary disappear more readily than from Brodie's solution. The greater cleansing power was assessed by placing in the manometer fluid a grease-coated microscopic slide prepared by dipping it into ether containing 1 % lanolin.

SUMMARY

An improved manometer fluid is described in which the bile salts recommended by Brodie are replaced by a non-ionic detergent of the 'alkylarylpolyoxyethanol' type.

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The Lipid Mobilized by Anterior Pituitary Extract

By J. CAMPBELL AND C. C. LUCAS

Banting and Best Department of Medical Research, University of Toronto

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When certain anterior pituitary extracts are administered to fasting rats a rapid increase in the lipid of the liver and kidneys, and a decrease in that of the other tissues, occurs (Best & Campbell, 1936, 1938). Since more lipid disappears from the depots than accumulates in liver and kidney, it is apparent that increased utilization of lipid accompanies the mobilization. In this study the sources and nature of the lipid mobilized were determined in mice, and certain observations on the distribution of lipid in the body were made. A similar, but less complete, study was made of the effects of the extract when given to fasting rats.

METHODS

Fifty normal adult male mice (raised on a diet of 'Purina' fox chow, supplemented with brown bread and milk) were separated into five groups. The mice were fasted from the beginning of the experiment, but water was always available. Four hours after the beginning of fasting the animals of group 1 (controls) were sacrificed. At this time each animal in groups 2 and 4 (injected controls) was given subcutaneously 9 mg. of an inert protein, bovine plasma albumin (BPA); and each animal of groups 3 and 5 was given 9 mg. anterior pituitary preparation (APP). The mice of groups 2 (BPA) and 3 (APP) were killed 7 hr. after these injections, i.e. 11 hr. after the beginning of the experiment. Mice of groups 4