

Ignition with sodium carbonate gave slightly lower results except with chiniofon where the discrepancy was appreciable; Powell and Taylor also obtained low results in this case.

NOTES ON THE METHOD

1. About 0.4 g. of zinc is consumed; for quantitative reduction not less than 10 ml. of sodium hydroxide solution and a reduction time of 20 minutes are required.

2. The reduction products of pheniodol, iodophthalein, iodoxyl and chiniofon, identified respectively as α -phenyl- β -(4-hydroxyphenyl)-propionic acid, phenolphthalein, N-methyl-4-pyridone-2:6-dicarboxylic acid and 8-hydroxyquinoline-5-sulphonic acid were found not to interfere with the iodate titration.

3. In the B.P. the end-point acid concentration for Lang's iodate titration¹² varies from the equivalent of 0.64N in the case of iodophthalein to 1.42N in the case of iodoxyl. For accurate results not lower than 1N was found necessary.

SUMMARY

A method for the determination of iodine in iodophthalein, chiniofon, iodoxyl and pheniodol is described. The method is simple and rapid and is more accurate than the ignition method of the British Pharmacopœia.

REFERENCES

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(IV) THE STABILITY AND PRESERVATION OF LITMUS SOLUTIONS

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Received January 8, 1952

LITMUS solution prepared as specified in the British Pharmacopœia is distinctly alkaline (pH 8) and rapidly undergoes fermentation, becoming acid and less sensitive. Prideaux¹ suggests phenol as a preservative but gives no details as to its use.

A quantity of litmus solution prepared according to the British Pharmacopœia was divided into 3 equal portions which were stored (a) in an amber glass-stoppered bottle, (b) in a clear glass-stoppered bottle, (c) in a clear glass-stoppered bottle after the addition of 0.5 g. of phenol per 100 ml.

ANALYTICAL NOTES

TABLE I

Mode of storage	Initial	4 weeks	8 weeks	12 weeks	12 months
(a)	pH 8.18	pH 7.02	pH 6.83	pH 6.69	pH —
(b)	8.17	6.78	6.68	6.56	—
(c)	8.04	8.03	8.01	8.02	7.98

of solution. Table I gives the pH of the stored solutions after different periods. The solution with added phenol had retained its original pH and colour whereas the unstabilised solutions became more acidic and reddish in colour; traces of sediment were observed in all 3 solutions. For some years a more sensitive litmus solution has been prepared in these laboratories from the official solution by diluting, and subsequently adjusting the pH . Litmus solution is prepared as directed in the British Pharmacopœia and 100 ml. of this solution then diluted with 150 ml. of water, just sufficient dilute acetic acid being added to give a very slight red colour. The solution is boiled for a few seconds then cooled and any slight acidity removed by adding dilute solution of ammonia until a purple colour is obtained, followed by boiling. The solution may then be stabilised by the addition of 0.5 g. of phenol per 100 ml. This procedure normally results in a solution having a pH of 7 to 7.5 but a more accurate adjustment may be made if the pH be determined during adjustment. Two drops of this stabilised solution in 10 ml. of distilled water gave a reddish-purple colour, changing on the addition of 0.03 ml. of either 0.01N acid or 0.01N alkali. A litmus solution prepared and stabilised as above (initial pH 7.29) was found to be stable during 3 months general laboratory use (final pH 7.26).

REFERENCE

1. Prideaux, *The Theory and Use of Indicators*, Constable, London, 1917, 354-5.

(V) THE DETERMINATION OF THE ACID VALUE OF BENZOIN

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Received January 8, 1952

IN the official method, a hot ethanolic extract of the material is titrated with ethanolic potassium hydroxide solution, using phenolphthalein as internal indicator. Owing to the dark colouration produced during the titration the end-point is very indistinct and probably appreciably over-run. At the request of the British Pharmacopœia Commission the use of other internal and of external indicators was therefore investigated.

Internal Indicators. Using the official method, determinations by several operators on a sample of benzoïn used throughout the work gave results from 117 to 131 (mean 124); no improvement resulted when two similar ethanolic extracts, one only of which contained phenolphthalein, were titrated side by side and compared at equal titres throughout the titration. The experiment was repeated using a photo-electric colorimeter to measure the colours, but in the region of the