

LETTERS TO THE EDITOR

Dilutions of Sulphuric Acid

SIR,—Dilutions of sulphuric acid defined as reagents in the B.P. and B.P.C. are used mainly in simple qualitative tests and for this purpose reagents prepared by mixing specified proportions by volume of acid and water should generally be satisfactory. Some simplification of the preparation of these reagents is therefore possible on the lines suggested by Betts, (1962) but the data he has put forward for conversion of strengths from w/w and w/v to v/v are stated in its source to be approximate only (Handbook of Chemistry and Physics, 1961-62). We have verified experimentally that the corresponding strengths he proposes are satisfactory, except that 80 per cent v/v sulphuric acid does not necessarily correspond to 80 per cent w/w. We prepared 80 per cent v/v acid by mixing 4 volumes of concentrated acid (assaying 99.5 per cent w/w of H_2SO_4) with 1 volume of water as directed in the B.P., and found by titration of a weighed sample that the dilution contained about 88 per cent w/w of H_2SO_4 . An 80 per cent v/v acid prepared from a sample of sulphuric acid which assayed only 97 per cent w/w of H_2SO_4 (the minimum B.P. limit) would, of course, correspond more closely than this to 80 per cent w/w. Sulphuric acid 80 per cent w/w is used in the B.P.C. in tests to distinguish cellulose from other fibres, and as the 80 per cent v/v acid we prepared is rather strong for this purpose it would seem to be more convenient to use a simple (2 + 1) dilution (66 per cent v/v) as recommended by Wallis (1960) and to indicate the precautions which should be taken to prevent undue dilution of the acid while the tests are being carried out.

In the next edition of the British Pharmaceutical Codex it is intended to replace 25 per cent w/v sulphuric acid by 14 per cent v/v (1 + 6 dilution), and 80 per cent w/w sulphuric acid by 66 per cent v/v. In order to eliminate 50 per cent w/w acid entirely the text will be modified. Dilute sulphuric acid (about 5 per cent v/v) will be retained as this strength is available in commerce.

Department of Pharmaceutical Sciences
Pharmaceutical Society of Great Britain,
17 Bloomsbury Square, London, W.C.1.
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S. C. JOLLY.
G. R. BROWN.

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