

SUPPLEMENTARY NOTE TO A "GRAVIMETRIC METHOD FOR THE ESTIMATION OF HYDROGEN DIOXIDE."

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IN This Journal, 23, 923, the author describes a method for determining the strength of hydrogen dioxide by the use of a "Schrötter" alkalimeter. Upon further experiment, he finds that a Geissler style modified by Dr. Shepard with removable parts, is a more convenient form, especially where a number of assays are to be made in succession. When the decomposition is complete, and if the apparatus is aspirated for about three minutes with air which had been previously dried by calcium chloride, the results obtained are much more satisfactory. A saturated filtered solution of bleaching-powder may be substituted for the potassium permanganate, as already suggested, but instead of dilute sulphuric acid a weak solution of caustic soda must be used in the bulb, and as in the case of permanganate, divide the results obtained by 2. But the most consistent results may be obtained by employing a filtered saturated solution of lead acetate as a decomposing substance for the hydrogen dioxide. As this is a catalytic action (all the oxygen generated comes from hydrogen dioxide itself), one may operate upon as much as 5 cc. of the hydrogen dioxide, but this precaution must be observed; in working with commercial samples or those which contain much free acid, a weak solution of caustic soda should be used in the bulb, as in the case of the bleaching-powder. The following tables are the results (in per cent.) obtained from pure and commercial samples of hydrogen dioxide, employing the different decomposing substances, just mentioned:

MEDICINAL SAMPLE, 0.05 PER CENT. FREE ACID (HCl).

	Pb(C ₂ H ₃ O ₂) ₂ .	Ca(ClO)Cl.	KMnO ₄ .	KMnO ₄ volumetric.
	3.01	2.95	3.30
	2.98	2.99	2.86
	2.99	3.00	3.11
Average,	2.99	2.98	3.09	3.01

COMMERCIAL SAMPLE, 0.91 PER CENT. FREE ACID (H₂SO₄).

	1.01	0.93	1.07
	1.05	1.03	1.09
Average,	1.03	0.98	1.08	1.05
