

The weight of nitrogen peroxide in the bulb was thus determined.

The weight was also determined directly by weighing the dried bulb and broken tip. A satisfactory check between the two methods served to establish the purity of the nitrogen peroxide.

Finally the volume of the gas cylinder was determined by weighing it empty and filled with water.

The complete results of the experiments are given below.

Length of waves in nitrogen peroxide at 22°C Length of waves in air at 19.0°C

Expt. No.	Dry or moist	In cms.	Exp. No.	In cms.
E4	Dry	1.440	E1	2.659
E9	Dry	1.440	E2	2.669
E10	Dry	1.436		
E12	Dry	1.455		Average, 2.664
E13	Dry	1.442		
E15	Dry	1.436		
		Average, 1.441		
E16	Moist	1.442 ¹		

Weight of Nitrogen Peroxide in Bulb.

(a) By titration:

No. cc pot. permang. (0.2874*N*) = 202.75 cc.

No. cc ferrous sulphate (0.1686*N*) = 137.60 cc.

Net pot. permang. = 122.01 cc.

Weight nit. peroxide = 1.6129 gm.

(b) By direct weighing:

Wt. of bulb + nit. peroxide + 0.0012 gm. water = 7.4318 gm.

Wt. of opened bulb + pieces (empty) = 5.7976 gm.

Wt. of water = 0.0012 gm.

Wt. of nit. peroxide = 1.6330 gm.

The average value 1.623 grams was used in the calculation.

¹ The sounding tube was accidentally broken while another "moist" measurement was in progress. As the dust heaps in E16 were well defined it was thought unnecessary to make further experiments.