HDA/VC/46D

AIRMAIL

20th October, 1959

L. C. Laporte, Esq.,
P.O. Box 6500,
MONTREAL 30,
Canada.

Dear Leo,

Thank you for the copy of the report on K-389, and of letter of October 15th to Sir Charles. I had heard from Sir Charles previously that your results showed the diminution in tar and nicotine to be due to the increased filtration efficiency which the addition of K-389 made to the cigarette rod, and I was very interested to note that you found the retention coefficient to be the same.

To put it in a slightly different way, this additive has increased the pressure drop of the cigarette without affecting its burn qualities, and the effect is the same as we should expect if, by some method of packing the tobacco rod, we could, for the same weight, have increased the pressure drop by the same amount. It therefore seems likely that the filtration of K-389 itself is much the same as that of tobacco. Would it be possible to make a filter plug of this material and measure its retention coefficient, which should be about 4? If this is so, it would prove the point and we should have a little more data to add to our knowledge of filtration.

By the way, retention coefficients are markedly dependent upon velocity and are much higher for a slow velocity, e.g. 15 ml. puff in 2 seconds, than for 35 ml. in 2 seconds. This is something that we are investigating at the moment but, roughly, for 35 ml. in 2 seconds we find retention coefficients ranging from 1.9 with coarse Estron to 2.3 with fine Estron through viscose fibres 2.4 to 3.3, paper and natural fibre (Supertex type) 3.0 to 3.5, tobacco around 1.6 to 4, paper filter (Schweitzer and Myria type) 5 to 6.

I will be sending you shortly a device we have made for rapidly putting together pressure drops, retention coefficients and filtration efficiencies which you may find intriguing and helpful.

With kindest regards,

Yours sincerely,

H.D.A.

C.c. E.S.F.Hobson, Esq.
Sir Charles Ellis
Dr.D.G.Felton )
Dr.I.W.Hughes ) 1 copy

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