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EVALUATION OF CARBON FIBRES AS POTENTIAL
CIGARETTE FILTERS

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Research & Development Establishment,
British-American Tobacco Company Ltd.,
SOUTHAMPTON.

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EVALUATION OF CARBON FIBRES AS POTENTIAL CIGARETTE FILTERS

(Report No. RD.394-R)

SUMMARY AND CONCLUSIONS

Le Carbone (Great Britain) Ltd., market a range of carbon fibres which have been shown to be potentially useful as cigarette filter materials. Following discussions with Le Carbone, samples of viscose tow of different denier specifications were carbonised, activated and evaluated.

The results indicate the following:-

(1) Carbonised viscose fibres remove different proportions of aldehydes, hydrogen cyanide and hydrogen sulphide from cigarette smoke. This observation is of some importance, since, in general, commercially available unimpregnated granular carbons do not show this property to any significant degree.

(2) Filters made from carbonised viscose fibres reduce the smoke toxicity (to paramecium) to a greater extent than filters containing the same weight of granular carbons (e.g. Sutcliffe Speakman 207C grade). This again is interesting in view of the fact that the latter carbons are more effective for removing aldehydes and hydrogen cyanide than the carbonised viscose samples.

These observations are sufficiently important to merit further work and the following arrangements are in hand:-

(1) A larger quantity of viscose tow (200 lbs) has been sent to Le Carbone for carbonisation and activation. With this amount of material it should be possible to make sufficient filters for a detailed chemical and biological evaluation.

(2) Efforts are being made at the Salford Royal College of Advanced

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Technology to produce carbonised viscose fibres similar to those produced by Le Carbone. If this work is successful then the techniques involved in the carbonisation and activation will be available to the Company.

In a different context, it is intended to extend the examination of compounds in smoke which are removed by such materials as carbonised viscose, and may be responsible for the paramecium toxicity.

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