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APPRAISAL OF ACTIVE CARBONS

REPORT NO. RD.311-R

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APPRAISAL OF ACTIVE CARBONS

(Report No. RD.311-R)

SUMMARY

Twenty representative grades of carbon have been examined with respect to their capacity for removing aliphatic aldehydes and inorganic cyanides from cigarette smoke.

The results are presented as (a) filtration efficiencies of granular beds of standard weight; (b) filtration efficiencies of 5 mm. granular beds and (c) the carbon costs per 1000 such granular filters of fixed adsorptive capacity.

The carbon costs per 1000 filters which have filtration efficiencies  $\geq 50\%$  for the above smoke constituents vary from 1.45 d. to 17.94 d. The figure for the National Coal Board's sample D is 1.45 d. This carbon, however, is at the moment being produced on the pilot scale only but full-scale production may be expected within a year. For Sutcliffe Speakman 203B charcoal, filtration efficiencies  $\geq 80\%$  for the two constituents are achieved at a cost of 5.15 d./1000 filters. For its adsorptive capacity, this is the cheapest carbon examined which is currently available in bulk.

Many of the grades examined show different capacities for the smoke constituents measured suggesting that blends or mixtures of two or more carbon grades may have advantages in producing filters of more comprehensive adsorptivity.

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