

B.A.T (U.K. & Export) Limited,  
Research & Development Centre,  
SOUTHAMPTON.

EDM/AGB/JP/46D

SIDESTREAM SMOKE:  
AMES MUTAGENICITY AND NICOTINE

REPORT NO. RD.2063

9.12.1986

AUTHOR: E.D. Massey and A.G. Barnes

CO-WORKERS: A.E. Hill

SECTION LEADER: T.G. Mitchell

ISSUED BY: R.R. Baker

DISTRIBUTION:

|                        | Copy No. |        |
|------------------------|----------|--------|
| Dr. R. Binns           | " "      | 1      |
| Mr. A.L. Heard         | " "      | 2      |
| Mr. E.E. Kohnhorst     | " "      | 3, 4   |
| Dr. P.J. Dunn          | " "      | 5      |
| Dr. S.R. Massey        | " "      | 6      |
| Mr. R.G. Nicholls      | " "      | 7, 8   |
| Herr E. Rittershaus    | " "      | 9      |
| Dr. E. Kausch          | " "      | 10     |
| Dr. C.J.P. de Siqueira | " "      | 11     |
| Mr. H.V. Thomsen       | " "      | 12     |
| Mr. R.F. Gilderdale    | " "      | 13     |
| Library                | " "      | 14, 15 |

COPY NO.

1986 B.A.T. (U.K. and Export) Limited. This report must not be copied or shown to unauthorised persons.

400909/57

B.A.T (U.K. & Export) Limited,  
Research & Development Centre,  
SOUTHAMPTON.

EDM/AGB/JP/46D

9th December 1986

SIDESTREAM SMOKE: AMES MUTAGENICITY AND NICOTINE

REPORT NO. RD.2063

SUMMARY

Using *Salmonella typhimurium* TA98 in the presence of an Aroclor 1254 induced S9 system, Ames bacterial mutagenicity has been measured on sidestream smoke condensate from prototype low visibility sidestream cigarettes wrapped in paper containing 10% potassium citrate. The nicotine/PMWNF ratio and the specific activity of the condensate were increased in the modified products. However, when magnesium chloride was added to the tobacco, the nicotine/PMWNF ratio was reduced and was accompanied by a reduction in activity.

When the mutagenicity data was re-plotted on the basis of nicotine content of the condensate, the results indicated a correlation between nicotine levels and activity in this mutagenic test. However, utilising a series of condensates with added nicotine (1.4 x and 1.8 x), at constant PMWNF, the mutation frequency was not altered. These results suggest that nicotine itself is not implicated in the activity of sidestream cigarette smoke condensate.

-i-

1986 B.A.T. (U.K. and Export) Limited. This report must not be copied or shown to unauthorised persons.

400909758