

SUMMARY OF INVENTION

Filters for removal of carbonyl compounds from tobacco smoke

ISSUE

Removal of carbonyl compounds, i.e. acrolein, from tobacco smoke will result in improvement of quality of a cigarette smoke. This has been achieved by filtration of smoke through a special material packed in a cigarette filter.

CONCEPT/IDEA

We suggested the new materials to be used as a selective cigarette filter for removal of carbonyl compounds, including aldehydes, such as acetaldehyde and acrolein, and ketones, such as acetone, from main-stream tobacco smoke. These filtration materials are based on, for example, cellulose chemically bounded to the hydrazide- residues. These chemically active groups are not detachable or degradable under the normal smoking conditions.

BENEFITS

Expected benefits include, but not limited to the reduction of unpleasant smell of, particularly, acrolein in tobacco smoke and to the lowering of its biological activity. This will promote the consumer interest and sale of the product.

OPERATIONALIZATION

A new cigarette filter is traditionally designed. The only change to be done is the packing of a small amount of, for example, hydrazido-cellulose in the filter. This would not require a significant engineering work. Synthesis of an active carbonyl-trapping material should not cause a problem to Lorillard.

COMMERCIALIZATION

Commercialization of the new product will be studied. Commercialization will particularly depend on the procedure of preparing of carbonyl-trapping material, which may be synthesized or purchased, whichever is less expensive.

CONSUMER ACCEPTANCE

Cigarette design, tobacco composition, etc. will remain unchanged and traditional. This will keep the usual customers buying our cigarettes. Removal of carbonyl compounds will reduce an unpleasant smell and lower the biological activity of smoke. This will promote the consumer interest and acceptance of the product.

BIOLOGICAL IMPLICATIONS

Positive biological implications due to the lowering the amount of delivered carbonyl compounds are expected and have to be studied.

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