

CIGARETTES WITH FILTER OF NANOTUBE

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The burning cigarette is the whole chemical factory making more 4 thousand of various connections, including mutagen, toxic and about 60 known or prospective carcinogens, for example, cyanic hydrogen, ammonium, isoprene, acetaldehyde, nitrobenzenecetone, carbon dioxide and others.

Manufacture of cigarettes with the filter enables to enter additives (the activated coal, zeolites), in any measure sorbing harmful substances. However constant toughening of requirements to quality of cigarettes causes an increase of efficiency of sorbents. The Chinese researchers have suggested to use carbon nanotubes, already well proved for removal of fluorine, lead, cadmium from solutions.

Oxidize nanotubes (about-OZO), received at catalytic pyrolysis of propylene and the subsequent processing in the concentrated nitric acid, were used in experiments. For comparison standard sorbents – zeolite NaY and the activated coal have been taken.

All sorbents have been placed in filtering mouthpiece of cigarettes. Process of "smoking" spent automatically in standard conditions. The main stream of a smoke passed through sorbents, then a condensate is collected on filters and weighed. About-OZO have appeared the most effective sorbents of nicotine (up to 0,56 mg/cigarettes) and pitches (up to 13 mg/cigarettes) in spite of the fact that their specific surface is much less, than at zeolite or the activated coal. Bent About-OZO length from hundreds nanometers up to micron form the aggregated times in the size 3-40nm which approach for sorbtion all types of molecules of a tobacco smoke.