

An aerosol-generating rod (10) for producing an inhalable aerosol upon heating comprises: a first aerosol-generating segment (12) comprising a first aerosol-generating substrate, wherein the first aerosol-generating substrate comprises a tobacco material and an aerosol former; a second aerosol-generating segment (14) at a location upstream of the first aerosol-generating segment; and a wrapper (22) circumscribing at least the first aerosol-generating segment and the second aerosol-generating segment. The second aerosol-generating segment (14) comprises a plug of a porous substrate. At least a core portion (24) of the plug comprises an aerosol-generating medium or a flavourant or both. A peripheral portion (26) of the plug (18) surrounding the core portion (24) is substantially free of aerosol-generating medium or flavourant. The aerosol-generating rod provides satisfactory aerosol delivery at lower temperatures, countering the "cold puff" or "empty puff" effect.