

Filters that are typically used on aerosol-generating articles are shorter than filters used on conventional cigarettes. In addition, the amount of tobacco in aerosol generating articles is less than in a conventional cigarette. This may lower the maximum loading of menthol that is possible in the filter compared with a conventional cigarette.

5 The aerosol-forming substrate in an aerosol-generating article is typically a processed substrate that contains an aerosol former such as glycerine. For example, the aerosol-forming substrate included in an aerosol generating article and consumed in an aerosol generating device may comprise a crimped or folded tobacco plug comprised of cast leaf or reconstituted tobacco. A flavour, such as menthol, may be loaded into the aerosol-forming substrate.
10 However, the structure of the aerosol-forming substrate may be compromised as a result. For example, the loading of menthol into a cast tobacco may lower the density and strength of cast leaf tobacco, making it less suitable for use as an aerosol-forming substrate in an aerosol-generating article.

It would be desirable to improve the addition of flavourings to aerosol-generating articles
15 to improve the strength and consistency of the flavouring that may be added to such articles.

In one aspect, there is provided an aerosol-generating article comprising a plurality of elements assembled in the form of a rod, the plurality of elements including an aerosol-forming substrate, and a mouthpiece filter located downstream from the aerosol-forming substrate within the rod, in which the aerosol-generating article comprises a volatile flavour-generating component disposed between the aerosol-forming substrate and the mouthpiece filter within the rod, the volatile flavour-generating component being coupled to a fibrous support element, and in which a low resistance support element is located upstream of the mouthpiece and downstream of the aerosol-forming substrate, the low resistance support element comprising a longitudinally extending channel locating the volatile flavour-generating component within the rod, in which the low resistance support element comprises a plurality of longitudinally extending channels defined by a sheet material and has been formed using one or more of the processes selected from the list consisting of crimping, pleating, gathering and folding the sheet material to form the channels, characterised in that the aerosol-generating article is a heated aerosol-generating article having a total length of 45 mm and an external diameter of 7 mm, the aerosol forming substrate having a length of 10 mm.
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~~In one aspect an~~ An aerosol-generating article is also provided comprising a plurality of elements assembled in the form of a rod. The plurality of elements includes an aerosol-forming substrate, and a mouthpiece filter located downstream from the aerosol-forming substrate within the rod. The aerosol-generating article comprises a volatile flavour-generating component
35 disposed between the aerosol-forming substrate and the mouthpiece filter within the rod.

As used herein, aerosol-generating article is any article that generates an inhalable aerosol when an aerosol-forming substrate is heated. The term includes articles that comprise

an aerosol-forming substrate that is heated by and external heat source, such as an electric heating element. An aerosol-generating article may be a non-combustible aerosol-generating article, which is an article that releases volatile compounds without the combustion of the aerosol-forming substrate. An aerosol-generating article may be a heated aerosol-generating article, which is an aerosol-generating article comprising an aerosol-forming substrate that is intended to be heated rather than combusted in order to release volatile compounds that can form an aerosol. The term includes articles that comprise an aerosol forming substrate and an integral heat source, for example a combustible heat source.

An aerosol-generating article may be a smoking article that generates an aerosol that is directly inhalable into a user's lungs through the user's mouth. An aerosol-generating article may resemble a conventional smoking article, such as a cigarette and may comprise tobacco. An aerosol-generating article may be disposable. An aerosol-generating article may alternatively be partially-reusable and comprise a replenishable or replaceable aerosol-forming substrate.

forming substrate is substantially parallel to the airflow direction in the aerosol-generating device.

The aerosol-forming substrate may be a solid aerosol-forming substrate. Alternatively, the aerosol-forming substrate may comprise both solid and liquid components. The aerosol-forming substrate may comprise a tobacco-containing material containing volatile tobacco flavour compounds, which are released from the substrate upon heating. Alternatively, the aerosol-forming substrate may comprise a non-tobacco material. The aerosol-forming substrate may further comprise an aerosol former. Examples of suitable aerosol formers are glycerine and propylene glycol.

If the aerosol-forming substrate is a solid aerosol-forming substrate, the solid aerosol-forming substrate may comprise, for example, one or more of: powder, granules, pellets, shreds, spaghettis, strips or sheets containing one or more of: herb leaf, tobacco leaf, fragments of tobacco ribs, reconstituted tobacco, homogenised tobacco, extruded tobacco and expanded tobacco. The solid aerosol-forming substrate may be in loose form, or may be provided in a suitable container or cartridge. For example, the aerosol-forming material of the solid aerosol-forming substrate may be contained within a paper or other wrapper and have the form of a plug. Where an aerosol-forming substrate is in the form of a plug, the entire plug including any wrapper is considered to be the aerosol-forming substrate.

Optionally, the solid aerosol-forming substrate may contain additional tobacco or non-tobacco volatile flavour compounds, to be released upon heating of the solid aerosol-forming substrate. The solid aerosol-forming substrate may also contain capsules that, for example, include the additional tobacco or non-tobacco volatile flavour compounds and such capsules may melt during heating of the solid aerosol-forming substrate.

Optionally, the solid aerosol-forming substrate may be provided on or embedded in a thermally stable carrier. The carrier may take the form of powder, granules, pellets, shreds, spaghettis, strips or sheets. The solid aerosol-forming substrate may be deposited on the surface of the carrier in the form of, for example, a sheet, foam, gel or slurry. The solid aerosol-forming substrate may be deposited on the entire surface of the carrier, or alternatively, may be deposited in a pattern in order to provide a non-uniform flavour delivery during use.

~~In one embodiment~~ As mentioned in the above aspect, the aerosol-generating article has a total length of approximately 45 mm. The aerosol-generating article ~~may have~~ has an external diameter of approximately 7 mm. Further, the aerosol-forming substrate ~~may have~~ has a length of approximately 10 mm. Alternatively, the aerosol-forming substrate may have a length of approximately 12 mm. Further, the diameter of the aerosol-forming substrate may be between approximately 5 mm and approximately 12 mm.

The mouthpiece filter is located at the downstream end of the smoking article. The filter

advantageously greater than would be the case if the menthol was loaded in the filter. Advantageously, the flavour may also infiltrate components of the article located between the aerosol-forming substrate and the mouthpiece filter.

During consumption, the flavour-generating component infiltrated into the aerosol-forming substrate may last longer due to a greater loading. Furthermore, the presence of a relatively high level of flavour-generating component within the rod and infiltrated into the mouthpiece filter may result in the flavour surviving at desirable levels until the user has completely consumed the article.

~~The~~ As mentioned in the above aspect, the volatile flavour-generating component ~~may be is~~ coupled to a fibrous support element. The fibrous support element may be any suitable substrate or support for locating, holding, or retaining the flavour-generating component. The fibrous support element may be, for example, a paper support. Such a paper support may be saturated with a liquid component such as liquid menthol. The fibrous support may be, for example, a thread or twine. Such a thread or twine may be saturated in a liquid component such as liquid menthol. Alternatively, such a thread or twine may be threaded to or otherwise coupled to a solid flavour generating component. For example, solid particles of menthol may be coupled to a thread.

Preferably the plurality of elements are assembled within a wrapper to form the rod. Suitable wrappers are known to those skilled in the art. Preferably the volatile flavour-generating component is supported by an elongated fibrous support element, such as a thread or twine. Preferably, the volatile flavour-generating component is disposed radially inward from an inner surface of the wrapper within the rod, the fibrous support element having a longitudinal dimension disposed substantially parallel to a longitudinal axis of the rod. Where the intermediate section between the aerosol-forming substrate and the mouthpiece filter is enclosed within a wrapper, this section is effectively a cavity within which the flavour-generating component can be retained. For the flavour-generating component to pass out of the article it must either pass through the aerosol-forming substrate or through the mouthpiece filter. When passing through either of these elements some flavour is retained. Thus, the efficacy of a given amount of volatile flavour-generating component may be greater when the component is positioned between the aerosol-forming substrate and the mouthpiece filter within the article.

It ~~may be is~~ advantageous for the aerosol-generating article to comprise a low resistance support element located upstream of the mouthpiece and downstream of the aerosol-forming element. The low resistance support element comprises at least one longitudinally extending channel for locating the volatile flavour-generating component within the rod. When consumed, a user draws air from the article by drawing on the mouthpiece filter. Aerosol generated within the article passes through the mouthpiece and is inhaled by the user. It is desirable that the passage of air and aerosol between the aerosol-forming substrate and the mouthpiece filter

should not meet with a great resistance. In other words, it is desirable that there is a minimal pressure drop between the aerosol-forming substrate and the mouthpiece filter. Thus, a support element for the flavour-generating component may be termed a low resistance support element if it provides a low resistance to the passage of air along a longitudinal direction of the rod, which may be termed a low resistance to draw. Resistance to draw (RTD) is the pressure required to force air through the full length of the object under test at the rate of 17.5 ml/sec at 22°C and 101kPa (760 Torr). RTD is typically expressed in units of mmH₂O and is measured in accordance with ISO 6565:2011.

It ~~may be~~ is advantageous for the volatile flavour-generating component to be coupled to an elongated fibrous support and for the elongated fibrous support to be located by a channel in a low resistance support element. It may be possible to form a low resistance support element containing the elongated fibrous support and then use the support element as a component element of the aerosol-generating article.

The low resistance support element ~~may~~ comprises a plurality of longitudinally extending channels. The low resistance support element may have a porosity of between 50% and 90% in the longitudinal direction.

The plurality of longitudinally extending channels in the low resistance support element ~~may be~~ is formed by processing a sheet material. The processing may include one or more processes selected from the list consisting of crimping, pleating, gathering or folding to form the channels.

The plurality of longitudinally extending channels ~~may be~~ is defined by a single sheet that has been crimped, pleated, gathered or folded to form multiple channels. Alternatively, the plurality of longitudinally extending channels may be defined by multiple sheets that have been crimped, pleated, gathered or folded to form multiple channels. The plurality of longitudinally extending channels may be defined by a single sheet that has been pleated, gathered or folded to form multiple channels. The sheet may also have been crimped.

As used herein, the term 'sheet' denotes a laminar element having a width and length substantially greater than the thickness thereof.

As used herein, the term 'longitudinal direction' refers to a direction extending along, or parallel to, the cylindrical axis of a rod.

As used herein, the term 'crimped' denotes a sheet having a plurality of substantially parallel ridges or corrugations. Preferably, when the aerosol-generating article has been assembled, the substantially parallel ridges or corrugations extend in a longitudinal direction with respect to the rod.

As used herein, the terms 'gathered', 'pleated', or 'folded' denote that a sheet of material is convoluted, folded, or otherwise compressed or constricted substantially transversely to the

1. An aerosol-generating article ~~(10)~~ comprising a plurality of elements assembled in the form of a rod ~~(11)~~, the plurality of elements including an aerosol-forming substrate ~~(20)~~, and a mouthpiece filter ~~(50)~~ located downstream from the aerosol-forming substrate ~~(20)~~ within the rod ~~(11)~~, in which the aerosol-generating article ~~(10)~~ comprises a volatile flavour-generating component disposed between the aerosol-forming substrate ~~(20)~~ and the mouthpiece filter ~~(50)~~ within the rod ~~(11)~~, the volatile flavour-generating component being coupled to a fibrous support element ~~(45)~~, and in which a low resistance support element ~~(40)~~ is located upstream of the mouthpiece and downstream of the aerosol-forming substrate ~~(20)~~, the low resistance support element ~~(40)~~ comprising a longitudinally extending channel locating the volatile flavour-generating component within the rod ~~(11)~~, in which the low resistance support element ~~(40)~~ comprises a plurality of longitudinally extending channels defined by a sheet material and has been formed using one or more of the processes selected from the list consisting of crimping, pleating, gathering and folding the sheet material to form the channels, characterised in that the aerosol-generating article is a heated aerosol-generating article having a total length of 45 mm and an external diameter of 7 mm, the aerosol forming substrate having a length of 10 mm.
2. An article ~~(10)~~ according to claim 1 in which the sheet material is a material selected from the list comprising polyethylene, polypropylene, polyvinylchloride, polyethylene terephthalate, polylactic acid, cellulose acetate, starch based copolyester, paper, and aluminium foil.
3. An article ~~(10)~~ according to any preceding claim in which the low resistance support element has a porosity of between 50% and 90% in the longitudinal direction.
4. An article ~~(10)~~ according to any preceding claim in which the low resistance support element has a total surface area of between 300 mm² per mm length and 1000 mm² per mm length.
5. An article ~~(10)~~ according to any preceding claim in which the low resistance support element has a total length of between 7 mm length and 28 mm.
6. An article ~~(10)~~ according to any preceding claim in which the low resistance support element has a total length of about 18 mm.
7. An article ~~(10)~~ according to any preceding claim in which the sheet material has a thickness of between 10 micrometres and 250 micrometres.
8. An article ~~(10)~~ according to any preceding claim further comprising a separation element ~~(30)~~ located upstream of the volatile flavour generating component and downstream of the aerosol-forming substrate ~~(20)~~.

9. An article ~~(10)~~ according to any preceding claim in which the volatile flavour generating component comprises menthol.
10. An article ~~(10)~~ according to any preceding claim comprising more than 1.5 mg of menthol disposed between the mouthpiece filter ~~(50)~~ and the aerosol-forming substrate ~~(20)~~.