the rear face of the combustible heat source in which migration of aerosol-former from the aerosol-forming substrate to the combustible heat source is substantially prevented or inhibited.

According to the invention, there is provided a smoking article comprising: a combustible heat source with opposed front and rear faces; an aerosol-forming substrate downstream of the rear face of the combustible heat source; a non-combustible, substantially air impermeable, first barrier between a downstream end of the combustible heat source and an upstream end of the aerosol-forming substrate; an outer wrapper circumscribing the aerosol-forming substrate and at least a rear portion of the combustible heat source; and one or more airflow pathways along which air may be drawn through the smoking article for inhalation by a user. The combustible heat source is isolated from the one or more airflow pathways such that, in use, air drawn through the smoking article along the one or more airflow pathways does not directly contact the combustible heat source.

According to the invention there is also provided a combustible heat source with opposed front and rear faces for use in a smoking article according to the invention, wherein the combustible heat source has a non-combustible, substantially air impermeable first barrier provided on at least substantially the entire rear face of the combustible heat source. In certain preferred embodiments, the first barrier comprises a first barrier coating provided on the rear face of the combustible heat source and the first barrier is adhered or otherwise affixed to the rear face of the combustible heat source. In such embodiments, preferably the first barrier comprises a first barrier coating provided on at least substantially the entire rear face of the combustible heat source. More preferably, the first barrier comprises a first barrier coating provided on the entire rear face of the combustible heat source.

According to the invention there is further provided a method of reducing or eliminating increases in temperature of an aerosol-forming substrate of a smoking article during puffing. The method comprises providing a smoking article comprising: a combustible heat source with opposed front and rear faces; an aerosol-forming substrate downstream of the rear face of the combustible heat source; a non-combustible, substantially air impermeable, first barrier between a downstream end of the combustible heat source and an upstream end of the aerosol-forming substrate; an outer wrapper circumscribing the aerosol-forming substrate and at least a rear portion of the combustible heat source; and one or more airflow pathways along which air may be drawn through the smoking article for inhalation by a user, wherein the combustible heat source is isolated from the one or more airflow pathways such that, in use, air drawn through the smoking article along the one or more airflow pathways does not directly contact the combustible heat source.

As used herein, the term 'airflow pathway' is used to describe a route along which air may be drawn through the smoking article for inhalation by a user.

As used herein, the term 'aerosol-forming substrate' is used to describe a substrate capable of releasing upon heating volatile compounds, which can form an aerosol. The aerosols generated from aerosol-forming substrates of smoking articles according to the invention may be visible or invisible and may include vapours (for example, fine particles of substances, which are in a gaseous state, that are ordinarily liquid or solid at room temperature) as well as gases and liquid droplets of condensed vapours.

Isolation of the combustible heat source from the one or more airflow pathways in accordance with the invention advantageously substantially prevents or inhibits activation of combustion of the combustible heat source of smoking articles according to the invention during puffing by a user. This substantially prevents or inhibits spikes in the temperature of the aerosol-forming substrate during puffing by a user.

By preventing or inhibiting activation of combustion of the combustible heat source, and so preventing or inhibiting excess temperature increases in the aerosol-forming substrate, combustion or pyrolysis of the aerosol-forming substrate of smoking articles according to the invention under intense puffing regimes may be advantageously avoided. In addition, the impact of a user's puffing regime on the composition of the mainstream aerosol of smoking articles according to the invention may be advantageously minimised or reduced.

Isolation of the combustible heat source from the one or more airflow pathways also advantageously substantially prevents or inhibits combustion and decomposition products and other materials formed during ignition and combustion of the combustible heat source of smoking articles according to the invention from entering air drawn through the smoking articles along the one or more airflow pathways. As described further below, this is particularly advantageous where the combustible heat source comprises one or more additives to aid ignition or combustion of the combustible heat source.

Isolation of the combustible heat source from the one or more airflow pathways isolates the combustible heat source from the aerosol-forming substrate. Isolation of the combustible heat source from the aerosol-forming substrate may advantageously substantially prevent or inhibit migration of components of the aerosol-forming substrate of smoking articles according to the invention to the combustible heat source during storage of the smoking articles.

Alternatively or in addition, isolation of the combustible heat source from the one or more airflow pathways may advantageously substantially prevent or inhibit migration of components of the aerosol-forming substrate of smoking articles according to the invention to the combustible heat source during use of the smoking articles.

As described further below, isolation of the combustible heat source from the one or more airflow pathways and aerosol-forming substrate is particularly advantageous where the aerosol-forming substrate comprises at least one aerosol-former.

To isolate the combustible heat source from the one or more airflow pathways, smoking articles according to the invention ~~may~~ comprise a non-combustible, substantially air impermeable, first barrier between a downstream end of the combustible heat source and an upstream end of the aerosol-forming substrate.

As used herein, the term 'non-combustible' is used to describe a barrier that is substantially non-combustible at temperatures reached by the combustible heat source during combustion or ignition thereof.

CLAIMS:

1. A smoking article comprising:

a combustible heat source having a front end and a rear end;

an aerosol-forming substrate downstream of the rear end of the combustible heat source;

a non-combustible, substantially air impermeable, first barrier between a downstream end of the combustible heat source and an upstream end of the aerosol-forming substrate;

an outer wrapper circumscribing the aerosol-forming substrate and at least a rear portion of the combustible heat source; and

one or more airflow pathways along which air may be drawn through the smoking article for inhalation by a user,

wherein the combustible heat source is isolated from the one or more airflow pathways such that, in use, air drawn through the smoking article along the one or more airflow pathways does not directly contact the combustible heat source.

~~2. A smoking article according to claim 1 further comprising a non-combustible, substantially air impermeable, first barrier between a downstream end of the combustible heat source and an upstream end of the aerosol-forming substrate.~~

32. A smoking article according to claim 21 wherein the first barrier comprises a first barrier coating provided on the rear face of the combustible heat source.

43. A smoking article according to claim 32 wherein the first barrier coating is applied to the rear face of the combustible heat source by vapour deposition.

54. A smoking article according to any one of claims 1 to 43 wherein the one or more airflow pathways comprise one or more airflow channels along the combustible heat source.

65. A smoking article according to claim 54 comprising a non-combustible, substantially air impermeable, second barrier between the combustible heat source and the one or more airflow channels.

76. A smoking article according to claim 65 wherein the second barrier comprises a second barrier coating provided on an inner surface of the one or more airflow channels.

87. A smoking article according to any preceding claim comprising one or more air inlets downstream of the rear face of the combustible heat source for drawing air into the one or more

airflow pathways.

98. A smoking article according to claim 87 comprising one or more first air inlets between a downstream end of the combustible heat source and an upstream end of the aerosol-forming substrate.

109. A smoking article according to claim 87 or 98 comprising one or more second air inlets about the periphery of the aerosol-forming substrate for drawing air into the one or more airflow pathways.

1110. A smoking article according to claim 87, 98 or 109 comprising one or more third air inlets downstream of the aerosol-forming substrate for drawing air into the one or more airflow pathways.

1211. A smoking article according to claim 1110 wherein the one or more airflow pathways comprise a first portion extending from the one or more third air inlets to the aerosol-forming substrate and a second portion extending from the aerosol-forming substrate to a mouth end of the smoking article.

1312. A smoking article according to any preceding claim further comprising:

a heat-conducting element around and in direct contact with a rear portion of the combustible heat source and a front portion of the aerosol-forming substrate.

1413. A smoking article according to any preceding claim further comprising:

an expansion chamber downstream of the aerosol-forming substrate.

1514. A combustible heat source with opposed front and rear faces for use in a smoking article according to any preceding claim, wherein the combustible heat source has a non-combustible, substantially air impermeable first barrier provided on at least substantially the entire rear face of the combustible heat source and the first barrier is adhered or otherwise affixed to the rear face of the combustible heat source.

1615. A combustible heat source according to claim 15 wherein the first barrier coating is applied to the rear face of the combustible heat source by vapour deposition.

1716. A method of reducing or eliminating increases in temperature of an aerosol-forming substrate of a smoking article during puffing, the method comprising providing a smoking article comprising:

a combustible heat source with opposed front and rear faces;

an aerosol-forming substrate downstream of the rear face of the combustible heat source;

a non-combustible, substantially air impermeable, first barrier between a downstream end of the combustible heat source and an upstream end of the aerosol-forming substrate;

an outer wrapper circumscribing the aerosol-forming substrate and at least a rear portion of the combustible heat source; and

one or more airflow pathways along which air may be drawn through the smoking article for inhalation by a user,

wherein the combustible heat source is isolated from the one or more airflow pathways such that air drawn through the smoking article along the one or more airflow pathways does not directly contact the combustible heat source.