wrapped smoking article relative to the expected flavour of a single wrapped smoking article.

The use functional material, such as catalyst or oxidant particles, can present challenges other than potential discolouration of a wrapper. For example, during smoking, semi-volatile or non-volatile combustion products such as tar can deposit on the particles of functional material and effectively prevent the particles of functional material from interacting with the smoke in the manner intended.

It would therefore be desirable to provide a wrapper for a smoking article, which contains functional material, without having any of the above drawbacks typically associated with such wrappers.

According to a first aspect of the present disclosure, there is provided a smoking article having a tobacco rod and a wrapper disposed about the tobacco rod. The wrapper includes a plurality of aggregated particles, with each aggregated particle containing particles of functional material, a whitener, and a polymeric binder, wherein the polymeric binder binds together the functional material and the whitener in each particle. Each aggregated particle has an inner core containing at least some of the particles of functional material. At least some of the whitener is distributed on an outer surface of the inner core.

The inventors have shown that by providing a plurality of aggregated particles, with each aggregated particle having particles of functional material in its inner core, and a whitener distributed on the outer surface of the inner core, the particles of functional material can be at least partially obscured from the view of a consumer, without unduly affecting the ability of the functional material to interact with smoke produced by the smoking article. This can allow for a generally white wrapper to include particles of functional material, such as iron oxide-containing particles, which typically have a naturally dark colour, without unduly affecting the ability of the functional material to interact with smoke produced by the smoking article. Furthermore, this can avoid the need for double wrapping of the smoking article, and thus avoids undesirable increases in paper notes during smoking and undesired complexity in the manufacturing process for the smoking article. These and other advantages will be readily understood by those of skill in the art upon reading the disclosure presented herein.

inner surface of the paper component, the outer surface of the paper component, or both the inner and outer surfaces of the paper component. Preferably the coating is applied to the inner surface of the paper component, particularly when the particles of functional material included in the aggregated particle is a catalyst. As used herein, an inner surface of a paper component is the surface of the paper component that faces the longitudinal axis of the smoking article when incorporated into the smoking article.

A coating of aggregated particles may be applied to a paper component of a smoking article at any suitable thickness. For example, a coating of aggregated particles may have a thickness from about 0.05 micrometers to about 2 micrometers. Preferably, a coating of aggregated particles has a thickness of at least about 1 micrometer.

Preferably, aggregated particles are incorporated into a paper component of a smoking article as filler during the papermaking process. In embodiments, aggregated particles replace part of all of calcium carbonate filler typically used as a filler in the papermaking process. Aggregated particle sizes of about 10 micrometers or less allows for ready substitution for calcium carbonate particles. The use of nanoscale whitener, such as calcium carbonate nanoparticles, may facilitate keeping the average size of the aggregated particles to about 10 micrometers or less.

According to a second aspect of this disclosure, there is provided a method of forming a wrapper containing a plurality of aggregated particles. The method includes the steps of binding particles of functional material and a whitener in a polymeric binder to produce a plurality of aggregated particles compriting the particles of functional material and the whitener bound together by the polymeric binder, each aggregated particle having an inner core containing at least some of the particles of functional material, with at least some of the whitener distributed on the outer surface of an inner core; and contacting a substrate of a wrapper of a smoking article with the plurality of aggregated particles.

According to a third aspect of this disclosure, there is provided a wrapper for a smoking article, the wrapper includes a plurality of aggregated particles, with each aggregated particle containing particles of functional material, a whitener, and a polymeric binder, wherein the polymeric binder binds together the functional material

and the whitener in each particle. Each aggregated particle has an inner core containing at least some of the particles of functional material. At least some of the whitener is distributed on an

CLAIMS:

1. A smoking article comprising:

a tobacco rod; and

a wrapper disposed about the tobacco rod,

the wrapper comprising a plurality of aggregated particles, each aggregated particle comprising particles of functional material, a whitener, and a polymeric binder, wherein the polymeric binder binds together the functional material and the whitener in each particle,

wherein each aggregated particle has an inner core comprising at least some of the particles of functional material, and

wherein at least some of the whitener is distributed on an outer surface of the inner core.

2. A smoking article according to claim 1, wherein the whitener forms a porous coating on the inner core of each aggregated particle, so that the particles of functional material in the inner core can interact with components of smoke produced by the smoking article.

3. A smoking article according to claim 1 or claim 2, wherein the average size of the plurality of aggregated particles is from about 0.5 micrometers to about 10 micrometers.

4. A smoking article according to any one of the preceding claims, wherein the average size of the particles of functional material is from about 0.1 micrometers to about 6 micrometers.

5. A smoking article according to any one of the preceding claims, wherein the whitener comprises whitener particles having an average size of about 950 nanometers or less.

6. A smoking article according to any one of the preceding claims, wherein the whitener comprises whitener particles having an average size of less than about 30% of the average size of the particles of functional material.

7. A smoking article according to any one of the preceding claims, wherein the functional material comprises a catalyst material.

8. A smoking article according to claim 7, wherein the catalyst material comprises a metal oxide.

9. A smoking article according to any one of the preceding claims, wherein the whitener comprises calcium carbonate particles.

10. A smoking article according to any one of the preceding claims, wherein the at least one aggregated particle comprises a weight ratio of functional material to whitener of from about 1:3 to about 1:7.

11. A smoking article according to any one of the preceding claims, wherein the wrapper comprises a paper web and a filler and wherein the filler comprises the plurality of aggregated particles.

12. A smoking article according to any one of the preceding claims, wherein the wrapper comprises a substrate and the plurality of aggregated particles are disposed on the substrate.

13. A method comprising:

binding particles of functional material and a whitener in a polymeric binder to produce a plurality of aggregated particles comprising the particles of functional material and the whitener bound together by the polymeric binder, each aggregated particle having an inner core comprising at least some of the particles of functional

material, with at least some of the whitener distributed on an outer surface of the inner core, and

contacting a substrate of a wrapper of a smoking article with the plurality of aggregated particles.

14. A method according to claim 13, wherein contacting the substrate with the aggregated particles comprises incorporating the aggregated particles into the substrate as a filler.

15. A wrapper for a smoking article, the wrapper comprising:

a plurality of aggregated particles, each aggregated particle comprising particles of functional material, a whitener, and a polymeric binder,

wherein the polymeric binder binds together the functional material and the whitener in each particle,

wherein each aggregated particle has an inner core comprising at least some of the particles of functional material, and

wherein at least some of the whitener is distributed on the outer surface of the inner core.

16. A smoking article according to any one of claims 1 to 12 or a wrapper according to claim 15, wherein a majority of the outer surface is covered by the whitener.