Paper that is included in smoking articles can absorb water along with other compounds found in the mainstream smoke or aerosol passing through the smoking article or humidity or moisture surrounding the paper. This absorbed water and other compounds can stain or weaken the paper and negatively affect the smoking article.

It would be desirable to provide a smoking article that included paper that did not readily absorb water or compounds found in the mainstream smoke or aerosol passing through the smoking article or found in the environment surrounding the paper. It would also be desirable that this hydrophobic paper not affect the taste of the smoke or aerosol generated by the smoking article.

According to a first aspect of the invention, a smoking article includes a tobacco substrate and a wrapper disposed about the tobacco substrate. At least an inner or outer surface of the wrapper is hydrophobic via hydrophobic groups chemically bonded to the wrapper, the hydrophobic groups comprising a fatty ester or a fatty acid. The wrapper has a permeability of at least about 15 CORESTA units. The invention also encompasses a smoking article comprising a wrapper wherein the inner and outer surfaces both exhibit hydrophobic properties and a permeability of at least 15 CORESTA units.

Smoking articles that include a permeable wrapper with a hydrophobic surface (preferably the inner surface is hydrophobic) can better maintain the CO diffusion rate or air dilution rate through the wrapper as the tobacco substrate is consumed. As a result, the overall amount of CO in the mainstream smoke may be reduced.

Smoking articles that include a permeable hydrophobic wrapper can resist water absorption onto the wrapper portion of the smoking articles. As a result, visible staining and physically weakening the wrapper portion of the smoking article may be reduced.

Combustible smoking articles such as cigarettes include a tobacco substrate that is wrapped with a wrapper. The tobacco substrate includes a rod of tobacco formed of tobacco, shredded tobacco or tobacco cut filler or a combination thereof. The tobacco substrate produces mainstream smoke when the tobacco rod is burned or otherwise consumed.

Heated smoking articles include a tobacco substrate that is also enclosed with a wrapper. The tobacco substrate includes a rod of tobacco formed of tobacco, shredded tobacco or tobacco cut filler or a combination thereof and a heat source. The tobacco substrate produces an aerosol of volatile compounds released from the heated tobacco substrate upon use of the heated smoking article.

The tobacco substrate includes a rod of tobacco formed of shredded tobacco or tobacco cut filler like cigarettes, or it may include reconstituted tobacco or cast leaf tobacco, or a mixture of both. The term “reconstituted tobacco” refers to paper-like material that can be made from tobacco by-products, such as tobacco fines, tobacco dusts, tobacco stems, or a mixture of the foregoing. Reconstituted tobacco can be made by extracting the soluble chemicals in the

**CLAIMS**

1. A smoking article comprising:

a tobacco substrate;

a wrapper disposed about the tobacco substrate, wherein at least an inner or outer surface of the wrapper is hydrophobic via hydrophobic groups chemically bonded to the wrapper, the hydrophobic groups comprising a fatty ester or a fatty acid, the wrapper having a permeability of at least about 15 CORESTA units.

2. A smoking article according to claim 1, wherein the wrapper has a permeability of at least 20 CORESTA units.

3. A smoking article according to any of the preceding claims, wherein the inner surface of the wrapper, the outer surface of the wrapper, or both the inner and outer surface of the wrapper has a water contact angle of at least about 100 degrees.

4. A smoking article according to any of the preceding claims, wherein the wrapper comprises cellulosic material and a hydrophobic reactant covalently bonded to the cellulosic material.

5. A smoking article according to claim 4, wherein the wrapper has a basis weight in a range from about 20 to about 50 grams per square meter and the hydrophobic reactant has a basis weight in a range from about 0.1 to about 3 grams per square meter.

6. A smoking article according to claim 4 or 5, wherein the hydrophobic reactant comprises a fatty ester group or a fatty acid group.

7. A smoking article according to claim 6, wherein the fatty ester group or fatty acid group comprises an alkyl group having from about 12 to 30 carbon atoms.

8. A smoking article according to claim 6 or 7, wherein the fatty ester group or fatty acid group is covalently bonded to a hydroxyl group of cellulose forming the wrapper.

9. A smoking article according to claim 6 or 7, wherein the fatty ester group or fatty acid group is derived from a fatty acid chloride.