DISINTEGRATABLE PLUG WRAPS AND THEIR APPLICATIONS

BACKGROUND

Smoking articles, such as cigarettes, generally have a substantially cylindrical rod shaped structure which typically includes a roll or column of smokable material, such as shredded tobacco, surrounded by a paper wrapper. Many types of cigarettes may have a cylindrical filter segment aligned in an end-to-end relationship with the tobacco rod ("filtered smoking articles"). The filter segment may comprise one or more plugs formed from a tow of filtering materials, such as cellulose acetate, circumscribed by a paper material known as "plug wrap" thereby forming a "filter plug." The opposite ends of the plug wrap can be secured together with a plug wrap adhesive. Typically, the filter segment can be attached to one end of the tobacco rod using a circumscribing wrapping material known as "tipping paper." The tipping paper and plug wrap may be bonded to each other through an "anchoring adhesive".

After a filtered smoking article is consumed, it is discarded. Adhesion of the filter plug wrap to the filter rod in the smoking article, in particular, when a non-water soluble adhesive is used, may delay the exposure of the filtering material to the environment and slow the filter disintegration, thereby contributing litter to the environment. To reduce the environmental burden of discarded filtered smoking articles, there is interest in developing cigarette filter plugs having an improved degradation rate.

SUMMARY

In a first aspect, the present invention provides a filter rod for a smoking article, comprising (a) a rod of filter material, and (b) a plug wrap surrounding the rod of filter material with overlapping side edges of the plug wrap being secured together with a plug wrap adhesive, wherein the plug wrap adhesive comprises a disintegration accelerating agent, in which the disintegration accelerating agent comprises an enzyme.

There is disclosed~~In a second aspect, the present invention~~ a filter rod for a smoking article, comprising (a) a rod of filter material, and (b) a plug wrap surrounding the rod of filter material with overlapping side edges of the plug wrap being secured together with a plug wrap adhesive, wherein the plug wrap has perforations.

There is also disclosed~~The invention also provides~~ a filter rod for a smoking article, comprising (a) a rod of filter material, and (b) a plug wrap surrounding the rod of filter material with overlapping side edges of the plug wrap being secured together with a plug wrap adhesive, wherein the plug wrap adhesive comprises a disintegration accelerating agent and has perforations.

The invention also provides smoking articles such as cigarettes comprising (a) a tobacco rod, and (b) a filter segment attached to one end of the tobacco rod, wherein the filter segment comprises a segment of the filter rod of according to the first ~~or second~~ aspect ~~or to both aspects of the invention~~.