AEROSOL GENERATOR INCLUDING MULTI-COMPONENT WICK

SUMMARY

Provided is an aerosol generator including a composite conduit to transport multiple liquids to a heating element such that the liquids arrive at the heating element in desirable concentrations. The composite conduit includes a plurality of passages having different lengths. The heating element is operable to volatilize the liquids to form volatilized fluid, which mixes with ambient air to form an aerosol with desirable concentrations of the multiple liquids.

Also provided is a method of generating an aerosol comprising transporting first and second liquids through first and second wicks of different lengths from at least one liquid supply to a heating element at rates such that the liquids are present at the heating element in desirable concentrations and volatilizing the liquids at the heating element to form volatilized fluid, which mixes with ambient air to form an aerosol with desirable concentrations of the liquids.

BRIEF DESCRIPTION OF THE DRAWINGS

FIGs. 1a and 1b are schematics of an embodiment of an arrangement containing plural layers of wicking materials for transporting a multi phase solution. Specifically, FIG. 1a is a side view of the arrangement and FIG. 1b is a cross-sectional view of the arrangement.

FIG. 2 is a schematic of an embodiment of an aerosol generator for generating an aerosol from two immiscible liquids that comprise two phases.

FIG. 3a shows a schematic of another embodiment of an aerosol generator having a composite conduit with multiple passages.

FIG. 3b shows a cross section of the composite conduit shown in FIG. 3a.

FIG. 4 shows a schematic of still another embodiment of an aerosol generator having a composite conduit with multiple passages.

DETAILED DESCRIPTION OF PREFERRED EMBODIMENTS

Provided is a device for generation of an aerosol. The device may be used for various purposes such as generating flavored aerosols, scented aerosols, or the like. The device volatilizes liquid material, which optionally condenses in ambient air to form an aerosol.

Aerosols are useful in a wide variety of applications. For example, it is often desirable to treat respiratory ailments with, or deliver drugs by means of, aerosol sprays of finely divided particles of liquid and/or solid, *e.g.*, powder, medicaments, etc., which are inhaled into a patient's lungs. For aerosols intended for human inhalation, a mass median particle diameter of particles of the aerosol less than 2μm (microns), preferably between 0.2μm and 2μm, and more preferably between 0.5μm and 1μm, is preferred.