

ABSTRACT

DEVICE AND METHOD FOR PRODUCING POLYMER FIBERS AND ITS USES THEREOF

A device comprising one or more nozzles having a tubular fiber spinning
5 needle and method for producing non-toxic polymer fibers and
microfibrous and nanofibrous polymer materials made thereof on a
small to large scale using a wide range of synthetic polymers and bio-
based polymers. The device and method enable continuous in-line
production of polymer fibers at a high fiber production rate energy
10 efficiently and safely. The increased polymer fiber production rate is
achieved by the at least one nozzle that enables a centrifugal force
acting upon the tubular fiber spinning needle causing rotational motion
of the tubular fiber spinning needle and higher polymer injection rates
per nozzle.

15 FIG. 1