The modification of conventional equipment of melt electrospinning was performed for generating micro- and nanofibers using a horn ultrasound, especially designed not to modify the stability of the flow of material, so they can adjust the sonic variables, without affecting the fiber formation, but promoting the dispersion of graphene in the thermoplastic matrix of PLA, as seen in the results of SEM, the dispersion is directly proportional to the amplitude variation in the sonotrode, the application of different frequencies demonstrated modify the viscosity of the material, offering very substantial changes in the stability of the fibers. In the fiber forming process with conventional tips melt fractures were much more frequent and tended to increase with increasing the amount of graphene, this effect was not observed with the use of the ultrasonic nozzle.

**Keywords:** Graphene, Ultrasonic, electrospinning

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