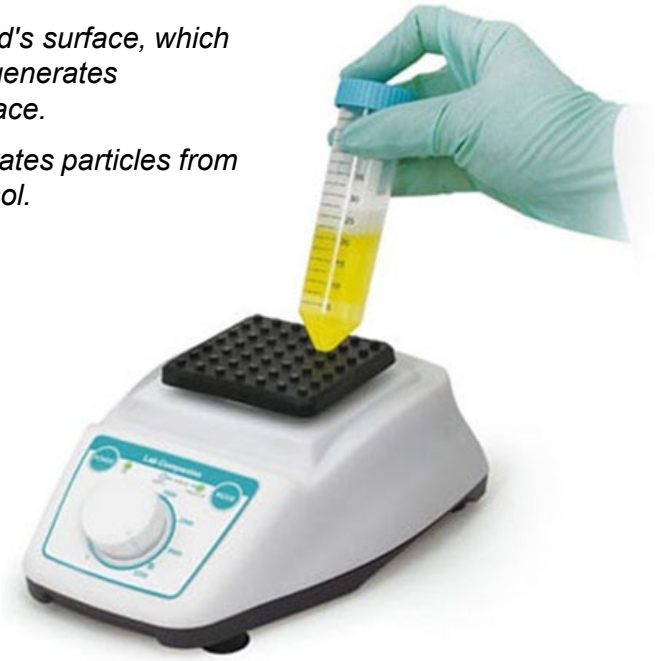
Aerosol Exposure Control - Vortex

The rapid swirling motion during vortex disrupts the liquid's surface, which is the primary point of aerosol creation. Also, vortexing generates turbulence that increases shear force at the liquid's surface.

The combination of turbulent flow and shear force separates particles from the liquid phase, launching them into the air as an aerosol.



VORTEX: Safety Practices

- Use vortex inside a biosafety cabinet or a fume hood whenever working with biohazardous materials. This confines any aerosols produced and provides a physical barrier against splash.

- Do not fill vessels to the brim, as this increases the chance of splashing and aerosol generation.
- Perform vortexing with sealed tubes or bottles whenever possible.
- Use vortex at the lowest speed necessary to mix the sample.

Use of fluorescein to demonstrate material dispersion from an open tube mixed with a vortex.