

How to nebulize micro liter volumes with the 241 series nebulizer

Operation of the ultrasonic nebulizer

All ultrasonic nebulizers require a level of liquid on top of the vibrating element that makes particles. When the nebulizer crystal is activated it moves like a diaphragm. This diaphragm action forces the liquid upwards like a fountain and off the surface of this fountain small particles begin to break off. Since the particles are small they need some help moving them either with a vacuum, air flow or gas. The nebulizer can never be operated dry or near dry conditions for failure of the nebulizer crystal from heat.

Applications that require micro liter volumes

Some liquids need to be nebulized in very small volumes. The best way to nebulize small volumes is to make a vessel, fill it with water about one inch over the element. Place a thin piece of teflon film (.001" th) over the vessel and water. Assure the water sits firmly against the film. No air pockets should exist in order to best couple energy to the small volume of liquid. Place another tight fitting sleeve over the vessel with the water and the film, sealing the film between the vessel and the sleeve. This should form a tight seal. Place the small volume of liquid on top of the film and nebulize.

Diagram of the set-up

