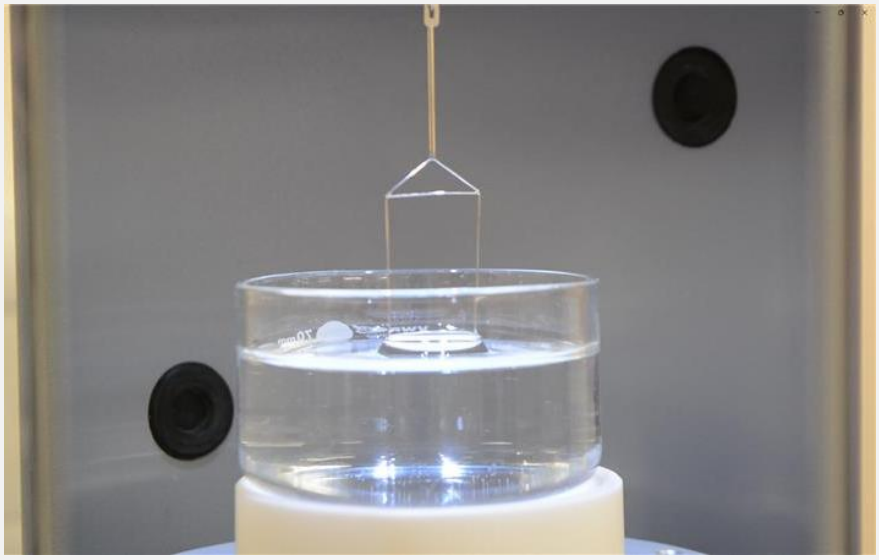
How to clean and store a du Noüy ring

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The du Noüy ring is a piece of scientific apparatus used to measure the surface tension of liquids. The ring is suspended from a torsion balance or force sensor - for example, one of our **Sigma 700/701 Force Tensiometers**. The ring, in a horizontal plane, is dipped into the liquid and slowly lifted. As it exits, a thin film of liquid forms. The force required to detach the ring from the liquid's surface is measured, correlating with the liquid's surface tension.



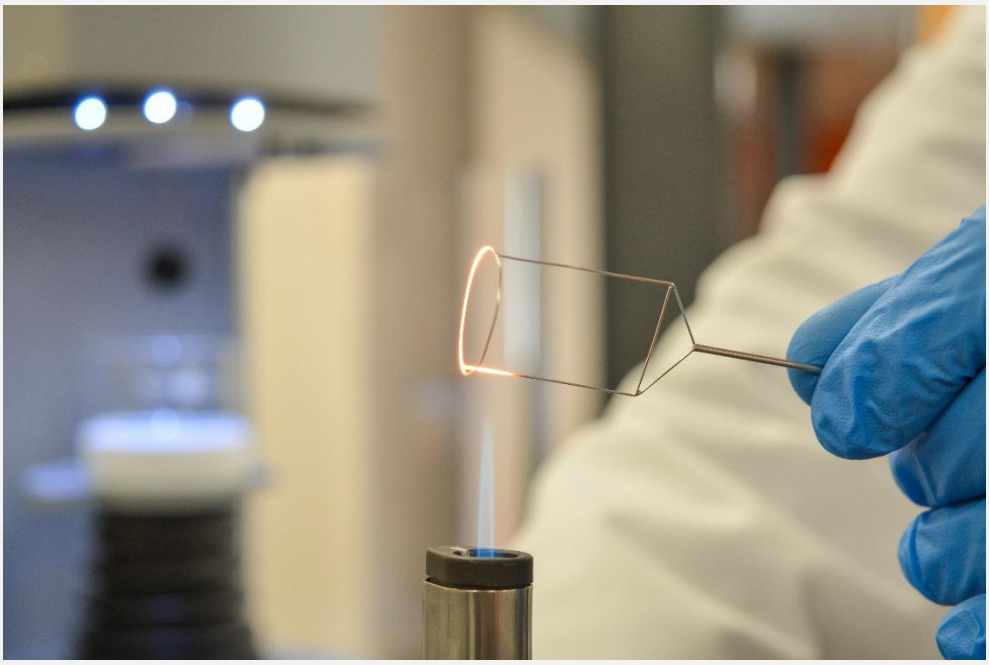
A du Noüy ring measuring surface tension of water using a Sigma 701 force tensiometer

Cleaning process

Care of the du Noüy ring is important for consistency of surface tension measurement results. Deformation and contamination due to improper washing will affect the accuracy of the results. The du Noüy ring should be cleaned before and after a measurement. Great care must also be taken when handling the ring to avoid deformation.

Cleaning can be done with a solvent such as ethanol and then with pure water. If acetone is being used it is recommended to clean with IPA afterwards as acetone can evaporate so quickly that it can leave behind a film of contaminants.

The ring should also be cleaned with a Bunsen burner (with a flame around 1000ºC) for a brief time until the ring glows yellow-red for a few seconds. This also anneals the ring and reduces the chance of deformation.



A du Noüy ring being heated over a flame

Storage and transport
How the du Noüy ring is stored is just as important as how it's cleaned. Storing should be done with the ring immersed in ethanol while hanging on a hook. If this is not possible then it should be delicately placed in the transport case provided. Moving it in and out of the transport case can deform the ring if not handled carefully. Alternatively, you can leave the ring hanging out, however this will increase the contamination on the ring so careful cleaning should take place before measuring. If it is also hanging in the open, care must be taken to ensure it does not get damaged through knocking, etc.

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