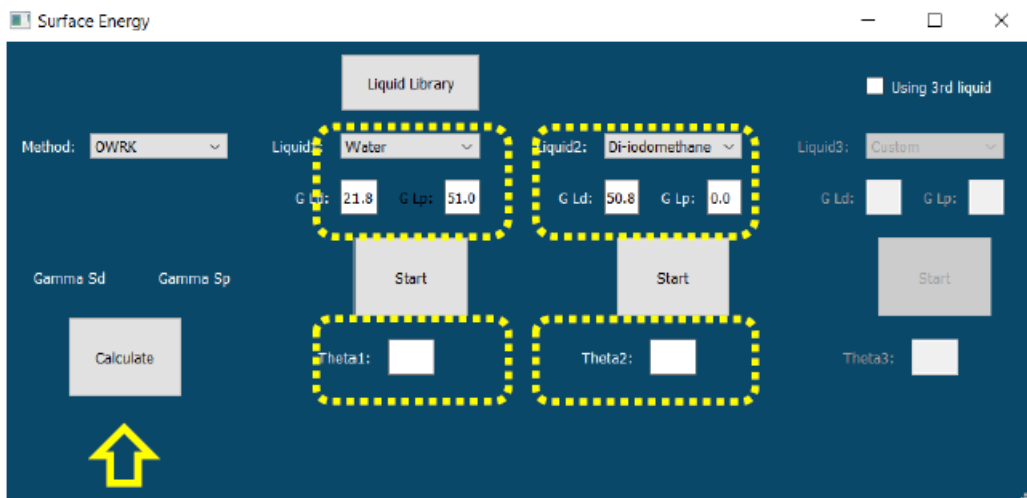


## Surface Free Energy Measurement

Surface free energy is a critical parameter for understanding material interactions, particularly in applications involving adhesion, coatings, and other surface-related processes. Surface free energy is measured using the contact angle goniometer through the sessile drop method. This method involves placing a droplet of liquid on a solid surface and analyzing the contact angle formed between the liquid and the surface. To measure surface free energy, it is necessary to measure the contact angles of water and a polar solution on the solid phase.

Our goniometer utilizes advanced techniques, including the OWRK (Owens, Wendt, Rabel, and Kaelble) and Wu methods, to calculate surface free energy. These methods are in full compliance with ISO 19403 standards, ensuring accuracy and reliability in our measurements.

For smooth and homogeneous surfaces, surface free energy is calculated using the equation of state, providing precise and reliable data. Understanding surface free energy is essential for optimizing processes such as adhesion, coating, and surface treatment, where the interaction between materials plays a crucial role.



The environment of the software for measuring surface energy.

## Sample Requirements:

- **Surface Type:** Samples should ideally be smooth and homogeneous to ensure accurate surface free energy measurements.
- **Sample Size:** Samples should be at least 1x2 cm and at most 5x5 cm (typically, 3 drops are placed on each sample).
- **Thickness:** The thickness (height) of the samples should not exceed 25 mm.
- **Surface Compatibility:** Samples should preferably have a flat surface. If the sample does not have a flat top and bottom surface or cannot be placed on the stage for any reason, the responsibility of providing a suitable fixture lies with the client. If no appropriate fixture is available, the test will be performed with additional costs.
- **Sample Integrity:** Measurement cannot be performed on samples that dissolve or deform in water or the other polar fluid.
- **Output:** For each sample, the calculated surface free energy, including contributions from polar and dispersive components, will be provided along with an image of the drop on the surface.

## General Information:

- **Comprehensive Analysis:** Our measurements provide detailed insights into the surface characteristics, crucial for optimizing industrial processes.
- **Imaging Capabilities:** High-quality imaging is available to support the measurement process, ensuring accurate data collection.

For details about the test fees or if you have any additional questions, feel free to reach out to us at one of the numbers provided below.

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