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Method for Measuring Surface Viscosity

Non-invasive math-driven method quantifies surface viscosity of surfactants for improved product quality and manufacturing control.

Researchers at Purdue University have developed a new method to assist researchers and manufacturers quantify interfacial viscosity of surfactant solutions. The advanced manufacturing technique allows for better control of drops during jet breakup and bubble coalescence, which can enhance surfactant quality for a better manufactured product. Traditional techniques for probing and particle identification in surfactants are often expensive and invasive to samples. The approach created by Purdue researchers avoids inducing stress on a sample and uses elegant mathematics in corresponding software to illustrate intermolecular forces between particles and distinguish surface viscosity from bulk viscous stress.

Advantages:

-Accurate

-Cost-Effective

Potential Applications:

-Research

-Manufacturing

Technology Validation: Math models

TRL: 2

Intellectual Property:

Provisional-Patent, 2020-06-12, United States

Utility Patent, 2021-06-11, United States

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viscosity