

List of Dissertation Abstract (Dissertation Doctor)

Name	Supervisor	Title	Abstract
Miyako Hasegawa	Satoshi Nakai	Verification of probability density functional method for evaluating detergency	The possibility of application of the parameter $\mu_{rl}$ used in the detergency analysis by the probability density functional method was investigated.. First, $\mu_{rl}$ of commercially available detergents for various stains was calculated and the cleaning characteristics were compared. As a result, it was shown that $\mu_{rl}$ could be used as a detergency index. Then, the interaction (three types of additive, synergistic, or canceling action) between the cleaning elements such as temperature and surfactant concentration was determined using $\mu_{rl}$ , and it was confirmed that most of relationships are basically additive effects despite the relationship between the SDS concentration and the temperature for fatty acid stains which showed a synergistic effect. Further research on cleaning is desired from a thermodynamic point of view in the future.