

Bulk and interfacial properties of chemical systems used in specialty cleaning formulae



Figure 1 Physicochemical paint removal.

EnviroStripp Chemicals AB is one of the dominant producers of chemicals for removal of paint, adhesives, rubber and plastics, in the Nordic Area. The company offers a number of products and system solutions based on patented formulae, everything from large-scale industrial systems to pure consumer applications. During the last decade, the company has succeeded the in transformation from solvent-based to water-based systems for a majority of their products. The water-based systems are normally formulated with water, organic solvent, co-solvent, and surfactants as components.

An improvement of a product requires a fundamental knowledge of (i) the bulk properties of the system and (ii) the mechanism of the cleaning/stripping mechanism at interfacial regions. The purpose of this project is to gain understanding of the bulk and surface properties of chemical systems used for removal of paint and the ambition is to use a set of relevant analytical techniques like NMR spectroscopy (bulk properties) and QCM-D (surface properties).

This thesis work will be performed at the Department of Chemistry and Chemical Engineering (Assoc. Prof. Lars Nordstierna and Dr. Romain Bordes) and at EnviroStripp Chemicals AB (Ulf Billton) in Kungsbacka. The focus will be:

- Sample preparation
- Extensive work with analytical techniques
- Evaluation of the experimental data



Figure 2 4-channel quartz crystal microbalance for analysis of molecular interactions at surfaces.

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