

# CAPPA ASSIST IN IDENTIFICATION OF CHEMICAL COMPOUNDS IN DETERGENT



## BACKGROUND

Water Technology was formed in 1976 by Bernard and Margaret Creedon. Since 1968, Dr Bernard Creedon had amassed experience in the field of industrial water treatment. In 1975, Brendan Cronin and Michael O'Grada respectively founded a detergents and a process aids business. In 1985, they brought these businesses together to trade jointly under the Water Technology Ltd brand.

The synergistic benefits of the combined expertise and operational cost-efficiency has allowed the company to develop and grow exponentially ever since. Water Technology is the specialist of choice for some of the world's leading dairy, food and beverage, industrial, and pharmaceutical companies, who trust them to deliver on quality, efficiency and sustainability needs.

## THE NEED

Water Technology is the specialist of choice for some of the world's leading dairy, food and beverage, industrial, and pharmaceutical companies, who trust them to deliver on quality, efficiency and sustainability needs.

Industrial detergents are comprised of one or several chemical compounds which may be dispersed in aqueous media. There is often a need to identify the chemical compound or compounds present in a detergent. Examples of instances where this is necessary include analysing underperforming cleaning processes and transferring or upgrading from one cleaning process to another.

## THE SOLUTION

Samples of industrial detergents and additives were collected and submitted to CIT's Centre for Advanced Photonics & Process Analysis. Fingerprinting of these materials was carried out using FTIR and Raman spectroscopy. 47 different surfactant and surfactant additive samples were measured in total. Five different surfactant types were identified as well as three different additive types. On completion of this database of reference spectra, five samples of unknown composition were submitted to CAPPA for identification. All five samples were correctly identified.

## BENEFITS OF THE ENGAGEMENT

This surfactant database has given Water Technology the capability to further enhance its research and development facility. The ability to determine specific components in an unknown mixture allows it to develop competitive and 'application specific' formulations to meet industry needs.



**“CAPPA has been extremely helpful and professional to date in helping us here at Water Technology to develop our research and development capabilities. From our database development to our current projects, all questions have been seen and answered with professional advice in a timely manner. We hope to continue working with CAPPA into the future and hopefully pursue further projects together.”**

- Joseph Harrington, Development & Formulation Chemist