

YKI, Institute for Surface Chemistry



## Protect and preserve

## How can I protect my sensitive product?

Based on fundamental understanding of surface and colloid chemistry involved in drying technologies, we can assist in finding a suitable formulation, drying process or microencapsulation technology to protect your solid or liquid product in powder form.

## How can I control the properties of my powder?

Surface chemistry is a key factor in particle technology and powder performance. Through our extensive instrument park and scientific excellence we can help you to be on top of the issues.



**Making a cup of hot chocolate or repainting your room? Two examples of how important the design of the powder is for a well-functioning product. YKI helps companies design the surface chemistry of particles to achieve a good end product.**

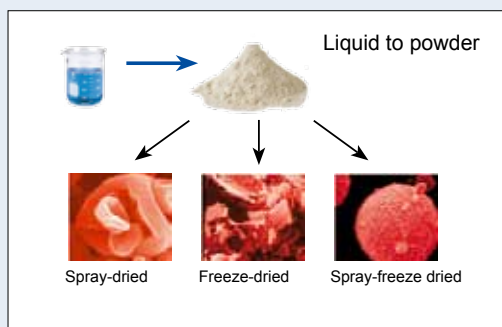
## This is how we make it happen

### Formulation

Selection of suitable excipients/matrix materials for your product and application.

### Drying technologies

In house technologies include spray-drying, freeze-drying and spray-freeze drying, providing different particle structures.



### Microencapsulation

Based on spray-drying, we have developed different microencapsulation systems: In-situ coating and aqueous two-phase systems.

### Characterisation

*Microstructure:* Scanning electron, transmission electron, confocal Raman and atomic force microscopy.

*Surface chemistry:* X-ray photoelectron and time-of-flight secondary ion mass spectroscopy.

*Material properties:* Differential scanning calorimetry, thermal gravimetric analysis, X-ray diffraction.

*Wetting properties:* Contact angle on tablets, compacts and larger granules and magnetic resonance imaging.

*Release profiles:* Release equipment, nuclear magnetic resonance and imaging.

*Particle-surface interactions:* Colloid probe atomic force microscopy (interaction forces, friction, adhesion).

### YKI – Your Research and Innovation Partner in Applied Surface Chemistry

YKI is a world-leading industrial research institute with a focus on innovation transfer in applied surface chemistry. YKI develops and transfers competence, solutions and new technologies to industrial sectors where surface chemistry is of importance. YKI works with a variety of industries including personal care, pharmaceutical, food, packaging and clean-tech. YKI is part of Sweden's leading research institute SP Technical Research Institute of Sweden.



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